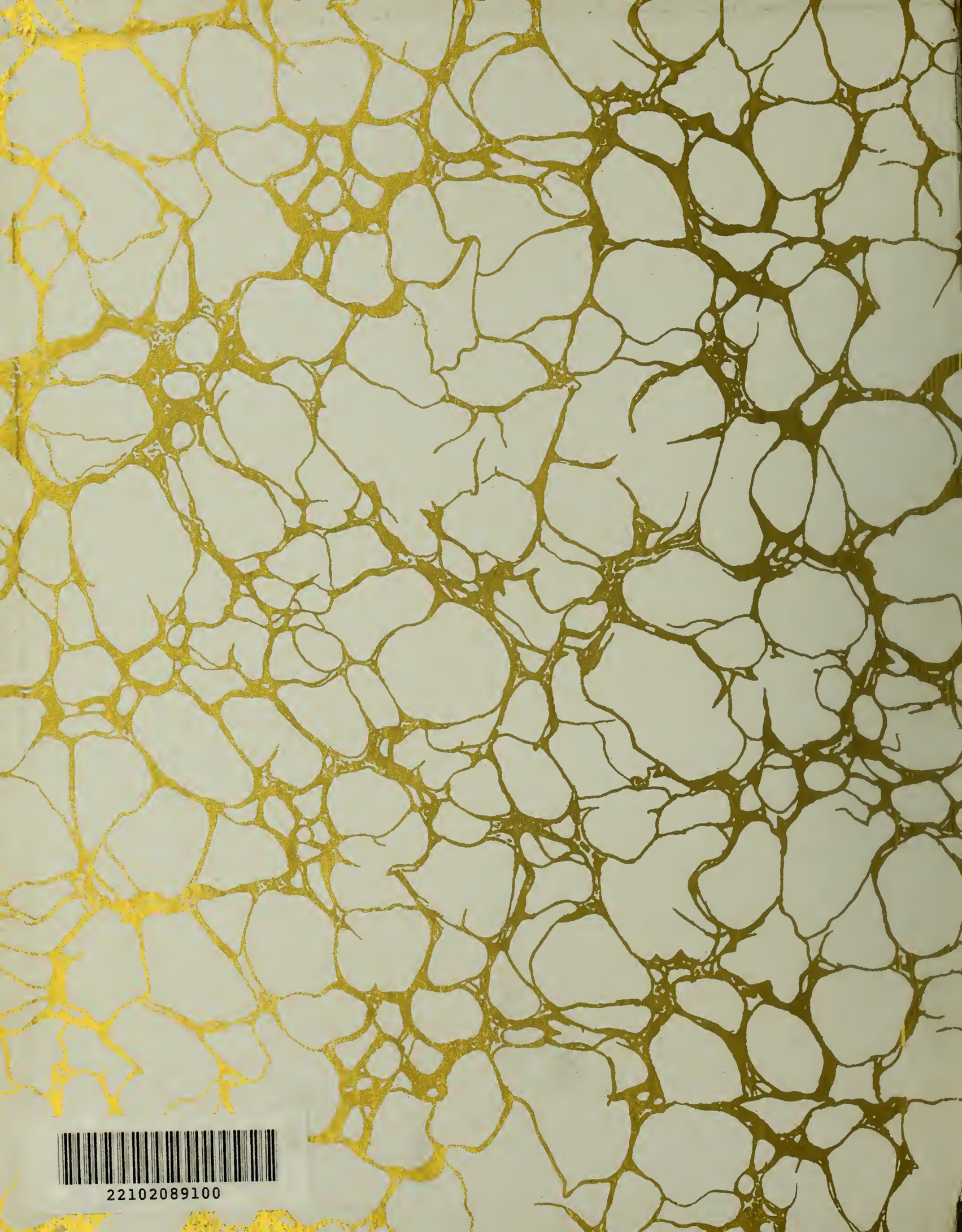
British Birds,

Their Nests and Eggs.



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BRITISH BIRDS

WITH THEIR

NESTS AND EGGS

IN SIX VOLUMES

ORDERS GALLINÆ, FULICARIÆ, AND ALECTORIDES.

By W. B. TEGETMEIER, M.B.O.U.,

AUTHOR OF "THE NATURAL HISTORY OF THE CRANES," "PHEASANTS," "PALLAS' SAND GROUSE," &c.

ORDER LIMICOLÆ.

By REV. HENRY H. SLATER, M.A., F.Z.S., M.B.O.U.,

ILLUSTRATED BY

F. W. FROHAWK, M.B.O.U., F.E.S.

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BRITISH BIRDS,

With their Nests and Eggs.

ORDER GALLINÆ.

THIS important order includes two distinct families of English Game Birds, the Phasianidæ or Pheasants and their allies, and the Tetraonidæ, which includes the Ptarmigan and the Grouse. The birds of this family are characterized by short bills, with the upper mandible much curved. The wings are short, concave, and rounded.

The Grouse, properly so-called, constituting the genus *Tetrao*, have the skin naked above the eye, and covered with red papillæ. The fifth quill of the wing is the longest, and the tail consists of eighteen feathers. The legs are feathered to the toes, but these are naked. The genus *Tetrao* includes the two English species, the Capercaillie, *T. urogallus*, and the Black Grouse, *T. tetrix*.

The genus *Lagopus* has the same characters of the bill, but in the wings the third or fourth quills are the longest, and the tail has sixteen in place of eighteen feathers. The birds of this genus are also remarkably distinguished by the feet, as well as the legs, being completely feathered to the ends of the toes.

The habits of the birds of these two groups are remarkably different, those of the genus *Tetrao* perch on trees, but the birds of the genus *Lagopus* rarely, if

ever, alight, except on the ground. The British species of *Lagopus* are the well-known Ptarmigan, *L. mutus*, which is confined to Scotland, and the bird which is so well-known as the Grouse, *L. scoticus*, sometimes termed the Red Grouse to distinguish it from the other species. This latter is remarkable as being the only bird which is exclusively British, not occurring outside the British Islands, except where it has been introduced into Sweden by Baron Dickson.

W. B. TEGETMEIER.

CAPERCAILLIE ♀ ♂ 1/6

Family—TETRAONIDÆ.

THE CAPERCAILLIE.

Tetrao urogallus, LINN.

THIS magnificent bird, the largest of the family, received the singular name of *urogallus*, or wild ox-cock, in reference to its size, was formerly a native of the north of England, Scotland, and Ireland, but was exterminated about the middle of the last century, and again re-introduced into this country about forty years ago, by the exertions of Sir Thomas Fowell Buxton. The story of this re-introduction is exhaustively told in Mr. Harvie-Brown's interesting volume on "The Capercaillie in Scotland." It appears somewhat doubtful whether the extinction of the birds was not due to their destruction by the proprietors of the estates, in consequence of their consuming or destroying the young shoots of the trees on which they fed. Since its re-introduction it has spread widely, and now is to be found in considerable numbers in many parts of Scotland. In some cases the pine forests have proved too limited for it, and it has now extended into oak and beech coverts.

Seebohm gives an interesting account of it as observed by him in Siberia. He describes it as a bird of powerful flight, and writes:—"The motion of its wings is rapid, steady, and not particularly noisy, except when it gets up suddenly; on such occasions there is noise enough, and the contemplative traveller who flushes a Capercaillie unexpectedly at his feet as he strolls on mountain or moor, may be excused if some seconds elapse before he has re-collected his scattered senses, and realized the fact that the world has not come to an end."

The Capercaillie is almost exclusively a bird of the forests, and during the winter feeds on the spines of the Scotch fir, at other times on corn, acorns, and the shoots and buds of various trees. The superiority of the hen when brought to table, has been assigned to the fact that she obtains her food on the ground, whilst the cock, living so much on the trees, is tempted to feed on the pine needles even during the summer. The Capercaillie is polygamous, the cocks fighting most desperately during the spring.

The nest of the Capercaillie is simply a hole scraped in the ground amongst the heather, without lining of any kind. There are seldom less than five, but

sometimes as many as a dozen eggs, of a pale buff ground colour, spotted with darker brown.

The colour of the adult males is dark slate-grey, the wing-coverts and scapular feathers being chestnut, each small feather being finely lined or vermiculated with white. The females are chestnut, barred with black and the feathers tipped with white. These white tips of the hen become much more conspicuous in the autumn, and greatly alter the appearance of the bird. The young males of the first year are very similar in colour to the adult females.

It is remarkable that in a state of nature hybrids, between the female Capercaillie and the male Black Grouse, are not unfrequent. They have been described, at considerable length and with much attention, by Mr. R. Collett. Of this hybrid he states that a considerable number are found every winter in Christiania. In Spain it is known under the name of Rakkelhane. These strange hybrids are almost always males. They are beautiful birds, but like the majority of hybrid birds are sterile. They are so important that they have been figured by Nilson, in his work on the "Scandinavian Fauna," and his plate is copied in the fourth edition of "Yarrell," and the male is also figured in Dresser's magnificent work on the "Birds of Europe."

It is singular that so large a bird as the Capercaillie should be confounded at any time with other species, but Lord Lilford suggests that they have been mistaken for wild Turkeys in the Carpathians, in European Turkey, and in Spain, singularly enough, it is termed the *Faisan*, or Pheasant. In that country the Capercaillie exists on berries, beech masts, acorns, etc., inasmuch as coniferous trees in Spain are particularly scarce. In Scotland, however, it certainly seems to prefer the tops of the twigs, or the needles of the Scotch fir, to any other diet, and Lord Lilford states that in opening the distended crop of a male from Perthshire, he found it contained a tightly compressed mass of fir needles, that on being loosened filled a chimney-pot hat.

The flesh of the young Capercaillie is, in the opinion of many, superior to that of the Black Game, although apt to have a turpentine flavour, from its feeding on the leaves of the Scotch fir. Thousands of the birds are sent into the London markets from northern Europe during the winter, being forwarded in a frozen condition. The length of the male may be taken at two feet eight inches, and its weight sometimes reaches fourteen pounds. The female is much less in size, being only twenty-six inches in length.

The breeding habits of the birds are very remarkable. Although polygamous the males are said to exceed the females in number, consequently their combats are very severe, and are carried on so regardless of danger, that they may

occasionally be captured by the hand when fighting, although at other times exceedingly shy. The pairing season commences the end of March, and continues till the middle of May. The oldest and strongest males droop their wings like Turkey Cocks, and ruffling up their feathers, utter notes, which Lord Lilford says are impossible to repeat, but which Mr. Lloyd endeavours to describe as follows:—"First note, *pellep! pellep! pellep!* Second note, *klickop!* Third note, *hede! hede! hede! hede!* The first note, *Pellep*, called *knappingen*, (pl. *knappingar*), is said to resemble the sound of two dry sticks struck together. The second, *klickop*, named *kluken*, has been likened to a sort of gulp in the throat, the noise made when the tongue is smacked against the palate, or when a cork is drawn out of a bottle. The third, *hede*, termed *sisningen*, has been compared to the sucking-in of the breath, as it were, or the sound caused by sharpening an edged tool on a whetstone. The giving utterance to these several notes may altogether occupy from two to three minutes; and, provided the bird be not in any way disturbed, he almost immediately afterwards commences repeating them, and continues to do so almost without ceasing."

During this time the bird is so excited and worked up into such a frenzy of passion, that he is quite unconscious of what is passing round him, and may be approached and shot without the slightest difficulty. The hens at the pairing time become equally excited, and will remain at times by the side of the mate that has been shot, so abstractedly as to allow themselves to be taken by the hand.

After the pairing season, the females retire to the pine forests to construct their nests, which are merely holes scraped in the ground. The period of incubation is about a month; the young, hatched at the beginning of June, keep with the mother until the approach of winter. The eggs of the Capercaillie are easily hatched in confinement, and the young birds can be readily reared according to the experience of Lord Lilford, but they cannot be kept for any time in an ordinary aviary, as they require an extensive range and a great variety of food.

Family—TETRAONIDÆ.

THE BLACK GROUSE.

Tetrao tetrix, LINN.

THOUGH generally distributed throughout the forests of Great Britain, Black Grouse are much more abundant in Scotland than in the English counties, where they are gradually diminishing in number; but they are tolerably plentiful at Exmoor and the Quantocks, and are less frequently found in Wilts, Dorset, and the New Forest. It is singular that Black Grouse are not found in Ireland, although many attempts have been made to establish the Black Game in what appeared to be suitable localities in that country. On the Continent, the range of the Black Grouse extends from the Eastern Pyrenees to the Alpine forests of northern and central Europe. It is abundant in west Siberia, but is absent from the Caucasus, being there replaced by its ally, *Tetrao mlokosiewiczi*. The adult male of the Caucasian Black Grouse is entirely black, without any white markings.

Although usually spoken of as Black Game, this term in reality applies only to one sex, the male; the female being known as the Grey-hen. The two sexes vary very much in size. An old Black-cock will weigh nearly four pounds, the length being about twenty-two inches. The plumage is glossy black, and on the neck and rump a shining blue; the wing barred, and the under tail-coverts being white.* The Grey-hen is chestnut-brown, barred with black. Her weight is about two pounds, and length eighteen inches. The tail of the Black-cock is remarkable, the feathers curving outwards on each side, leaving a wide gap in the centre, giving to the bird a most remarkable appearance, which is not fully developed until the third season. Each sex has the characteristic naked red skin over the eye.

The Black Grouse is usually to be found on rough moors, where there is a combination of wood and water, and particularly where there is an abundance of rushes. The food varies much with the locality and the season. The seeds of the

* All the old males shot at the beginning of the Season, *i.e.*, during the last days of August, are deep in moult, and have the crown of the head and hind-neck mixed black and brown, the latter colour predominating, while the chin is sprinkled copiously with white feathers. New tails are sprouting, and the feathers of the mantle are partly new and partly old. H.A.M.

BLACK GROUSE ♀ ♂

rush are largely eaten, stubble fields are gleaned in the autumn, and in spring the young shoots of trees are devoured, and ants' eggs are also great favourites with these birds.* During the autumn and winter the males live together in small flocks; before the breeding season they separate, and engage in desperate combats, fighting in much the same manner as the domestic cock. The singular habits of these birds in the spring has been more carefully observed and described by Mr. Booth, in his "Rough Notes," than by any other writer. He says:—

"In fine weather, during winter and early spring, the oldest birds collect at daybreak on some open spot, and go through the most extraordinary manœuvres; at times these performances appear to be indulged in simply for amusement; as spring advances, however, the animosity of the birds increases. In December, 1867, having frequently watched these gatherings from a distance without a chance of closely inspecting the whole of the proceedings, I carefully marked the place (a bare spot on a heather-clad slope of the hill side, facing towards the south) where the birds had collected for several mornings in succession, and determined to make an attempt to witness their antics at close quarters. The ground having been previously looked over and a good hiding-place decided upon, we arrived on the spot an hour before daybreak, and creeping into a regular nest of rugs and plaids which the keepers had arranged, I was covered well over with dry heather and brakes, and finally sprinkled with snow. The men were then sent away, and I quietly awaited the course of events. Shortly after the first streak of light had appeared in the east a rush of wings was heard, and a magnificent old Black-cock passing within a few feet of my head, settled on the open space some twenty yards in front. For fully ten minutes there were no other arrivals, and I began to fear some other spot had been chosen for the day's amusement; suddenly three or four more old cocks appeared on the scene, having probably alighted quietly on the other side of the brae. For a few moments they remained silently watching one another, apparently waiting for a signal from the leader. I next caught sight of two or three small parties flying high in the air, direct from the hills, on the opposite side of a steep burn. After circling once round the spot they alighted lower down on the hill, and some of them, principally Grey-hens, remained where they settled, while the males gradually ascended the rising ground, picking their way with the greatest care, carrying their tails high over their backs, either to show themselves to the greatest advantage, or to avoid contact with the snow. These were speedily followed by others, and they kept on gathering, till between thirty and forty more were collected in a kind of irregular circle. The old cock

* The crop of a male killed by accident in February was partly filled with the leaves of the buttercup. It also contained buds of birch and willow. H.A.M.

who had first appeared, and who was evidently looked upon as the master of the ceremonies, now advanced into the centre of the arena; his comb was elevated, his wings drooped, his tail curled over his back, and every feather, even down to his toes, spread out to its fullest extent.* After bowing all round, and apparently being satisfied that no one wished to dispute his title to be considered the greatest swell present, he proceeded to execute a kind of *pas seul*, which seemed to consist of a kind of double shuffle, hop, skip, and a jump, and was concluded by an almost complete somersault; others with ruffled plumage then made their way towards the open ground, strutting jauntily forward as if eager for the fray. Though the demeanour of the combatants was certainly threatening, their encounters appeared almost perfectly harmless.

The fiercest battles are known to take place in early spring. Towards the end of March, a few years back, I came unexpectedly upon a small party of five or six Black-cocks, with a few Grey-hens, on an open patch in a straggling birch plantation that stretched down to the water-side. Two of the cocks were indulging in the most savagely contested fight I ever witnessed; tumbling over one another, either up or down, they bit and flapped with the greatest fury, till rolling over a slope on the bank they were lost to view. Some of the Grey-hens, who were spectators, had perched themselves on the boughs of the trees, and appeared to regard the combat with the utmost attention."

The females make their nest usually under the shelter of some low bush or rank grass, and deposit their eggs which are from five to ten in number, and of a yellowish-white colour, varying to pale yellowish-red colour, irregularly spotted. These nests are never found far from water. The young are covered with close fine down. The eggs of the Grey-hen may be readily hatched if placed under a common fowl, and the young are easily reared if supplied with natural food, such as ants' eggs, earth worms, canary seed, and coarse oatmeal; they must also have access to suitable green food.† Raised in this way they become exceedingly tame, and assume their full plumage before they attempt to fly away, being much tamer than young Pheasants reared under the same conditions.

The Black Grouse is remarkable for hybridizing readily with various allied species. The hybrid with the Capercaillie has already been mentioned. It also breeds with the Red Grouse, and in Sweden with the Willow Grouse, and also with the Hazel Grouse. In this country it not unfrequently crosses with the

* Mr. Dresser observes that "The notes uttered by the Drumming Cock are called by the Swedes 'Kuttrande' or cooing, and 'blâsande' or blowing,—the one being a peculiar sort of cooing or gobbling, and the other a sort of sharp blowing sound which Mr. Collett describes as a long-drawn *houijsch*."

† Young Black Game, reared in captivity, thrive best when they have access to the seeds of rushes, upon which diet they grow rapidly. H.A.M.

RED GROUSE ♂♀

Pheasant, and has also been known to breed with the domestic fowl. In these instances the Black-cock is sometimes the parent of the hybrid, and at other times the Grey-hen. There is no record of any of the hybrids thus produced being fertile, although some of them, such as the produce of the domestic fowl, have been said to produce eggs. Barren Grey-hens not unfrequently assume, in part at any rate, the plumage of the other sex.

Family—TETRAONIDÆ.

THE RED GROUSE.

Lagopus scoticus, LATH.

THE Red Grouse has the remarkable distinction of being the only bird that is exclusively British; it occurs throughout the greater part of the British Islands, where there is moorland adapted to its habits and mode of life, but is not found in England south of Derbyshire. In the northern parts of Europe and America it is represented by a closely allied species known as the Willow Grouse, *L. albus*, and, unlike the Black-cock, is found on most of the moorlands and peat bogs of Ireland, although less abundantly than in Scotland.

The plumage of the Red Grouse varies very considerably in different districts and under different circumstances. It may be described generally as reddish-brown on the head and neck, and much darker on the body and the breast. The feathers on the abdomen are tipped with white, and in many cases a considerable proportion of white extends over the breast and other parts of the plumage. The legs are covered to the claws with hair-like feathers, of a dirty white colour, and the length of the bird is about five-and-a-half inches. Lord Lilford, in his coloured illustrations of British Birds, truly remarks that the plumage in different localities varies so greatly, that to attempt to figure even a few of them would exceed any reasonable limits. The female differs from the male in being lighter in colour,

smaller, and the plumage being yellowish-brown, barred with a darker colour. The young birds complete their moult and assume their full adult plumage in the first autumn, although in winter they show more white about their lower breasts than the adults.

The variations in the plumage of the Red Grouse and the seasonal changes in both sexes have been more carefully investigated by Mr. Ogilvie Grant, than by any other observer. His most recent observations have been published and illustrated by coloured plates in the "Annals of Scottish Natural History" for 1894. A brief résumé of these important observations will be acceptable. Mr. Grant asserts that the Red Grouse is one of the most variable of all birds in existence. He recognizes three forms in the male which he describes as red, black and white spotted, and in the females no less than five distinct types are recognizable, which he individualizes as the red, black, white spotted, buff spotted and buff barred. The great peculiarity of the Red Grouse, one which has no parallel among birds in the genus, arises from the changes of the plumage in the male and female occurring at different seasons. Mr. Grant writes:—

"The *male* has no distinct summer plumage, but has distinct autumn and winter plumages, and retains the latter throughout the breeding season.

The *female* has a distinct summer plumage, which is complete by the end of April or beginning of May; also a distinct autumn plumage, which is retained till the following spring.

To put it more concisely, both male and female have two distinct moults during the year, but in the male they occur in autumn and winter, and in the female in summer and autumn, the former having no distinct summer, and the latter no distinct winter plumage."

As is well known, the Grouse is exclusively a moorland bird, and is so much valued as a Game bird that it is in all cases most strictly preserved, the shooting on the moors where they are abundant letting for very high sums.

The Red Grouse feeds chiefly on the tops of a common species of heath, and occasionally those of sedges and grasses, and other plants. Near cultivated land it will eat oats, and occasionally may be shot with the crop full of that grain but its chief food is the fresh tops of the heather, which it selects as it walks along the heath, breaking off the little tips half-an-inch in length, so that the crops are filled with some hundreds. These are ground up in the gizzard with fragments of white quartz rock. The grouse is usually secluded among the heather, seldom rising until it is closely approached by man. Even when pursued by a dog, it will run some distance and then remain concealed for a long time, sometimes running several hundred yards before it rises.

The Red Grouse is strictly monogamous, pairing early in the spring. The nest, which is shallow and formed of a few twigs and feathers, usually contains from eight to twelve eggs of a regular oval form, yellowish-white, clouded and blotched with darker brown. The young, which are covered with fine close down, are reared by both parents, and run about soon after they are hatched. The hen manifests great anxiety for their safety, and will feign lameness or injury to induce a person who is approaching them to follow her, letting her pursuer approach so near as sometimes to be able to knock her down with a stick. The flock keep together till the end of the autumn, and in the beginning of winter several flocks will unite to form a pack, separating in pairs in the spring.

A very remarkable circumstance connected with this species is the presence of a violently destructive epidemic disease amongst them. This is so well marked and generally known that it is spoken of as "*the* Grouse disease," and occasionally it almost exterminates the whole of the birds on particular moors. The high value placed upon Grouse moors has led to the most careful investigation of the cause of this destructive disease, which has been carried on for many years. The last investigator, Dr. Klein, ascertained by the most carefully conducted series of observations, that the disease depended on the presence of a bacillus in the lungs and liver of the birds, and that these bacilli or minute microscopic germs possess great powers of vitality, and remain in the soil during the winter and spread the disease into the following year. Dr. Klein describes the birds as dying on the moors, the living bacilli remaining in the flesh or the soil, and producing the disease in the following spring. He says that the only measure of dealing with this disease in order to check its spread, is by the process of what may be termed "stamping out." All suspected Grouse on the moors should at all times be destroyed, but the dead bodies should not be left to propogate the epidemic, but carefully removed from the moor and burned; burying them is absolutely useless.

Dr. Klein, in his valuable and exhaustive work on "Grouse Disease," says: "I am not sure that those who burn the heather on moors on which Grouse disease prevails are not following a right plan, for the reason that hereby they remove that which most likely harbours the adhering infective material; nor am I sure that, on moors on which disease has been present, an extensive battue of Grouse would not also remove many of the birds that have the disease in a mild form, and that might carry it on, as it were, through the autumn and winter. It is therefore especially important that during autumn, and possibly the winter, a careful look-out should be kept for suspicious Grouse, for it is these which require removal particularly."

Family—TETRAONIDÆ.

THE PTARMIGAN.

Lagopus mutus, MONTIN.

THE Ptarmigan, though common on some of the highest mountain tops in Scotland, is quite unknown either in England or Ireland. It has been re-introduced in Arran, and may be found, but in gradually decreasing numbers, in the Islands of Skye, Lewis, etc., but was completely exterminated in the Orkneys some fifty years ago, mainly by the Officers of the Trigonometrical Survey. It is a circumpolar bird, exceedingly abundant in the North of Europe, and even extends down to the Pyrenees, where it is found above the snow line.

The plumage of the Ptarmigan varies greatly with the season of the year. In summer the male bird has the head, shoulders, breast, and upper parts blackish, slightly intermixed with white on the neck; over the eye is a bright vermilion comb; the tail is black, the central feathers being tipped with white; the wings and the lower part of the body generally are white, but the primary quill feathers have dark shafts. In the winter the entire plumage of the body of the male is pure white, but the lores and the tail are black. The plumage of the female during the breeding season may be described as tawny, barred with black, some of the feathers being tipped with white. The wings and tail are similar to those of the male bird, and the under parts of the body are white. In the winter the female assumes the white plumage of the male, from which she can usually be distinguished by the absence of the *black lores*, which are conspicuous in cock birds at that season.

The Ptarmigan is essentially a mountain bird, being found in high rocky localities where the Red Grouse could not subsist. It is rarely seen in the moorlands, where the Red Grouse are common, unless driven by severe weather in search of food. As an object of pursuit to the sportsman, it is not estimated as highly as the Red Grouse, for when it is approached, in place of flying away, the Ptarmigans crouch on the ground, trusting to the colour of their plumage and to the herbage to enable them to escape unseen. The call is a harsh croak, usually uttered when the bird is elevated on a stone ready to fly away, when all the rest of the covey join him. So closely do they crouch upon the ground, with which

PTARMIGAN ♂ ♀

the colour of their plumage harmonizes, being dark in summer and white in the winter, that a sportsman may walk through a covey without being aware that there are any birds in his neighbourhood.

After the nesting season they collect in packs, and visit lower localities than they frequent in summer. Barth says, that in Sweden, at that season, "they not unfrequently visit the sea coast, and, being white, are very conspicuous; they appear quite bewildered, and easy to approach within gunshot, whereas when the ground is covered with snow they are shy, and take wing before one has arrived within anything like gun-shot range. They fly tolerably swiftly, in a loose irregular body, their mode of flight resembling that of the Red Grouse, and when once on the wing will generally fly some distance before settling. Their call-note is a harsh croak, not unlike the cry of a frog, and it is frequently uttered as an alarm call." The food of the present species consists chiefly of the tender twigs and leaves of the common cranberry, *(Empetrum nigrum)*; but Macgillivray says that the crops of specimens he examined also contained a large quantity of fresh green twigs of the common heath or ling, *(Calluna vulgaris)*, and whortleberry, *(Vaccinium myrtillus)*, the largest fragments not exceeding five-twelfths of an inch in length. Leaves and twigs of the cow-berry, *(Vaccinium vitis-idæa)*, and dwarf-willow, *(Salix herbacea)*, seeds of various rushes and sedges, and other plants, with berries in autumn, also form part of their food, which is in fact, for the most part, the same as that of the Red Grouse. "The Grey Ptarmigan is a bird which, feeding on vegetable substances containing comparatively little nourishment, introduces a large quantity at a time, like a ruminating quadruped, and gradually digests it while reposing. In feeding it walks about among the shrubs and herbage, where it is little liable to be interrupted, so that it has time to select fragments of the proper size and quality."

Dresser states that the Ptarmigan breeds at great altitudes in the mountains, its nest being a mere depression in the soil, generally under shelter of a stone or low bush, and sparingly lined with grass-bents or thin twigs; and the eggs closely resemble those of the Red Grouse—so much so, that I can give no character by which they can always be distinguished. As a rule, however, the marking are a trifle larger and bolder. So soon as the young are hatched they are able to run, and at the least appearance of danger hide with great celerity, and it is almost impossible to find them.

The present species is not by any means so suitable for the table as the Red Grouse; but large numbers are sent to our markets, especially during the winter season, when they come over from Scandinavia with Willow-Grouse. In Scotland the common Ptarmigan is by no means free from that scourge of the moors, the

Grouse disease, and the late Lord Lilford stated "that in his shootings in Inverness-shire, they suffer from this disease quite as severely, in proportion to their numbers, as the Red Grouse."

Family—PHASIANIDÆ.

THE PHEASANT.

Phasianus colchicus, LINN.

THE true Pheasants, of which our common species, the *P. colchicus*, of Linnæus, may be taken as the type, are all natives of Asia, extending from Asia Minor as far east as Japan and Formosa. They are readily distinguished from other gallinaceous birds by the long wedge-shaped tail, composed of eighteen feathers, the two central of which are much longer than the others, and in some species, as the Reeves Pheasant, occasionally reach even six feet in length. There is a large number of closely allied species, or local races, which readily interbreed with one another, and produce, not sterile hybrids, but fertile offspring. In England, the species originally introduced was the Colchian Pheasant, *P. colchicus*, from Asia Minor, which is now commonly known as the Old English Pheasant. Since its introduction, which took place about a thousand years ago, the Chinese Ring-necked Pheasant, *P. torquatus*, has been introduced, and also the Japanese species, *P. versicolor*. These having been introduced into our coverts, have interbred freely, and now it is not easy to secure a specimen of either one of the races that can be regarded as perfectly pure.

Since its introduction from the east, the Pheasant has spread over the greater part of Europe, except in the Arctic regions. It has also been introduced and flourishes exceedingly well in North America, Australia, and in New Zealand.

PHEASANT ♂♀

(Phasianus colchicus.)

The Chinese species was also introduced into St. Helena, by the Portuguese, in 1513, and still flourishes under protection, although in a country so totally different from its original locality.

Naturally the Pheasant is a forest bird, inhabiting the margins of the wooded districts and coming into the open country to feed. The Pheasant closely resembles in its internal structure, the common fowl, and, like it, is an omnivorous feeder. Grain, roots, berries, herbage, fruits, and insects, are all devoured. Ants' eggs, in localities where they are prevalent, form the favourite food of the young. There are few berries, fruits, or seeds that it will not eat, acorns and beech masts forming a large proportion of its dietary during the latter part of the year. The quantity of food taken by it is very great. Thompson, the natural historian of Ireland, took thirty-seven acorns from the crop of one bird. Although injurious to the agriculturist by feeding upon grain, its value in other directions cannot be too highly appreciated. Twelve hundred wire worms have been taken out of the crop of a single Pheasant, and nearly five hundred grubs of the well-known daddy-long-legs, or crane fly, so destructive to the roots of grass, and I have taken fifty snails, *Helix nemoralis*, of full size, out of the crop of a Pheasant. There is no doubt, as Lord Lilford maintains, that the Pheasant, when not in unreasonable numbers, is a good friend to the farmer, from the enormous number of wire-worms and noxious insects it devours, to say nothing of its liking for the seeds and roots of various weeds. The Pheasant is also a carnivorous feeder. Examples have been taken containing in their crops such articles as field mice and slow worms. Sometime since I had the opportunity of examining three small vipers that were taken from the crop of a hen Pheasant.

The flight of the Pheasant is exceedingly strong and rapid. Mr. Cordeaux records their flying across the Humber where the stream is four miles in width. Like most gallinaceous birds, however, its food is sought upon the ground, and it is a true type of the rasorial or scratching birds. It runs with great speed, and not unfrequently seeks safety in rushing through the coverts in place of taking flight. The species is polygamous, one male associating with several females. The nest is a mere hollow scraped in the ground, and the eggs are usually about eight or nine in number. After hatching the female is deserted by the male and has the sole charge of the young brood. The period of incubation is twenty-four days. Pheasants usually lay in this country in April or May, but in consequence of the artificial state in which they are kept, and the abundance of food with which they are supplied, nesting at other seasons occasionally occurs. This feeding, especially if maize be the corn supplied, renders them so fat that their weight occasionally is developed to an extraordinary degree, Pheasants of upwards of five

pounds being not very unfrequently recorded. It is remarkable that, although so closely allied to the domestic fowl, the Pheasant is incapable of true domestication, the young birds, after being reared, always taking to the woods and trees as they arrive at maturity. In our own country at the present time, the Pheasant may be generally regarded as a semi-domesticated bird, the eggs being usually collected and hatched under hens, the young being placed in the open under the care of their foster parents, which are usually confined in coops. Under these conditions they are fed until they are able to take refuge and roost in the trees.

The manner in which wounded and mal-formed Pheasants, as well as other species, adapt themselves to new conditions of life, is very remarkable. The first engraving shows the head of a bird which was forwarded to me in very fair condition, weighing two pounds five ounces, with thirty-three beech-nuts in its crop. Both mandibles had been cut off just in front of the nostrils, evidently by a steel trap, the tongue, however, protruded from the mouth, and although the bird had not the power, apparently, of taking up small seeds, it was well nourished on the beech-masts it obtained. The second engraving represents the head of a Pheasant in which the upper mandible had been shot away, nevertheless, the bird when killed was in very good condition, being able to feed itself, apparently, without much difficulty. When the birds are being shot at in the coverts and alarmed, they fly with such rapidity, that if the head comes in contact with a small branch, the upper mandible is not unfrequently bent down and forced through the lower jaw. In these cases it is utterly impossible that the bird can feed, as the mouth cannot be opened, and the bird, if discovered, is usually found to have been starved to death. Like most birds that are bred under artificial conditions, variations of plumage occur. Pied Pheasants are not uncommon in some coverts, and pure white examples occasionally make their appearance. Another variation that occasionally occurs is the production of the plumage of a buff colour, instead of the dark rich ground which

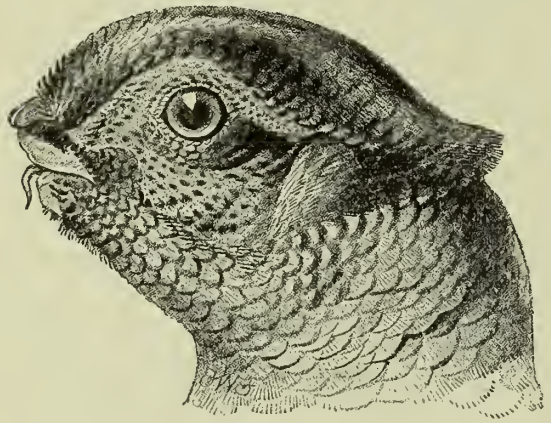


FIG. 1.

FIG. 2.

PARTRIDGE ♂ ♀

constitutes the plumage of the ordinary Pheasant. These are absurdly named Bohemian Pheasants, from the common practice of giving to all variations geographical names, which are almost invariably inaccurate and misleading.

Family—PHASIANIDÆ.

THE PARTRIDGE.

Perdix cinerea, LATH.

IN England we have two very distinct birds known as Partridges, the common Grey Partridge belonging to the genus *Perdix*, which is distinguished by having eighteen feathers in the tail, and is without spurs; and the Red-legged Partridge, *Caccabis rufa*, in which the tail is composed of fourteen feathers, and the males are usually spurred. The true Partridges, of which our common grey bird may be taken as the type, are inhabitants of the cultivated ground. They associate in coveys, and when flushed rise together in strong flight with a loud whirring sound. They do not perch, and make their nests on the open ground.

The Grey Partridge occurs over the temperate parts of Europe, but it does not extend into Africa. In Great Britain it is generally to be found in all cultivated localities, though scarce in the northern parts of Scotland. In Ireland, although present in the cultivated districts, it is by no means as common as in Great Britain. During winter the Partridges remain together in their coveys, the old pair and the young birds associating together, but in the early spring these coveys break up, and the birds pair previous to nesting. The nest is a mere depression in the ground, and is occasionally placed under the shelter of a bush. The usual number of eggs is from twelve to sixteen. Sometimes two hens lay in the same nest, and as many as twenty-five or thirty eggs have been found together.

The plumage of the Partridge varies considerably in different localities. Where the land is barren the birds are but small in size and grey in colour. In more cultivated districts they become of a much richer chestnut colour. The colours vary so much in their distribution on the birds, that the distinction between the sexes has been generally mistaken. Mr. Ogilvie Grant, of the British Museum, has made the sexual plumage of the Partridge a subject of very careful attention. In a most valuable illustrated article, published in the "Field," of November 21st, 1891, he states that there are few British Birds of which less is known regarding the real distinctions and changes of plumage, by which a male can always be distinguished from a female. Most persons are under the impression that the hen Partridge has no chestnut horse-shoe mark on the breast, though possibly a few chestnut feathers may exist. In this exhaustive paper Mr. Ogilvie Grant examines the statements that all the standard authorities, such as Macgillivray, Yarrell, Dresser, Seebohm, and Saunders have made on the subject, and then gives the results of his own careful examination, which prove that the horse-shoe mark is found in both males and females, and he states definitely that:—

"In the Partridges which I have examined, it appears that in the great majority of young female specimens, the horse-shoe mark on the breast is well developed, though in some it is represented by a few chestnut spots, and in some rare instances absent.

In the old female birds the contrary obtains, and in the great majority the horse-shoe is represented by a small patch of chestnut spots at the base of the breast, while more rarely all trace of chestnut is absent. It would thus appear that, though young females possess a well developed horse-shoe on the breast, this character becomes less marked at each successive autumn moult, and entirely disappears in some.

The popular idea among sportsmen, that all Partridges with a well developed horse-shoe patch are males, has, I suspect, frequently proved disastrous to the young hens, and I know of more than one instance in which game preservers, disappointed in the number of their birds, and unable to account for their scarcity, have imagined their ground to be overstocked with old cocks, and, in consequence, have given orders to their keepers to shoot as many Partridges with the horse-shoe mark as possible. Probably the result was not equal to their expectations, for there can be no doubt that a large number of the birds destroyed must have been young hens, which would have formed the breeding stock for the following season. It is thus clear that the presence or absence of the horse-shoe mark is not a sexual distinction; or at least, can only be considered as of secondary importance, in combination with other characters which I shall now mention."

A male Partridge may be always distinguished by the feathers on the side of the neck, they have no pale buff stripes down the shafts. In the female the side neck feathers have almost all a pale buff stripe down each shaft. In the female the central wing-coverts are nearly black, and each feather is transversely and irregularly striped with buff. Mr. Grant says:—"To put it more simply for those who are not versed in the technical names given to the different parts of the plumage. Having looked at the sides of the neck and seen whether they are grey or brown, with pale buff lines down the middle of each feather, turn the Partridge back uppermost, and examine the smaller feathers which cover the upper parts of the wings. If they are sandy-brown, blotched with chestnut, and with small black lines across them, the bird is a cock; if they are mostly black, with conspicuous buff cross bars, the bird is a hen. The buff cross bars on the wing-coverts are an unmistakable character, and quite sufficient to distinguish the hen at a glance. The Partridge assumes the adult plumage of these parts of the body at the first moult, and, consequently, the above differences are strongly marked before the commencement of the shooting season, except in late broods." Other variations in colour not unfrequently occur. Perfectly white albino varieties are occasionally seen, and a beautiful specimen, in which each feather was spangled with a lighter colour at the end, was recently figured in the "Field." In some parts of the country there is a strong tendency shown for the horse-shoe, which is usually chestnut, being produced of a more or less perfectly white colour. The eggs vary greatly in colour; they may generally be described as olive-brown, but others are nearly white, and some pale blue. The incubation of the birds lasts twenty-one days; the young are attended to by both parents, and the united family constitute the covey, the members of which remain together until the succeeding nesting season.

Family—PHASIANIDÆ.

THE RED-LEGGED PARTRIDGE.

Caccabis rufa, LINN.

THE Red-legged Partridge is a comparatively late introduction to the fauna of the British Isles, having been acclimatized in England about 1770, by the hatching of imported eggs under farm-yard fowls. It is now common in many parts of the eastern counties, but is unknown in Scotland or Ireland. Owing to a natural tendency on the part of the bird to seek congenial situations, writes Mr. Saunders, it is also to be found in many other districts, but under no circumstances has it thriven in the west or on rich grass lands. Its stronghold is East Anglia, where it frequents the higher and less cultivated soils. It has even resisted attempts to exterminate it, made under the belief that it harassed the Grey Partridge, and because its habit of running rendered dogs unsteady, and precluded the possibility of walking it up; but since "driving" became a system, the only objection to it is as regards its inferior quality for the table. Attempts at introduction on the mainland of Scotland and in the Orkneys have failed; nor have those made in Ireland since 1844 been successful.

The Red-legged Partridges, of which there are several closely allied species, four of which inhabit Europe, frequent fields and cultivated grounds like the common species. They differ, however, somewhat in their habits, preferring to run when disturbed, as they are exceedingly swift of foot. When, however, they are made to take wing, their flight is rapid, and they will proceed for longer distances than the common species. They not unfrequently fly up into the trees, and a whole covey may be seen seated on a fence or low building. Their food is identical with that of the common Partridge, grain, seeds, insects, and fruit.

Like the other species of *Caccabis*, they are remarkably distinguished by the feathers on the flanks being strongly barred, and they differ from the genus *Perdix* in the two sexes being similar in plumage. Although they pair the male is spurred, and sometimes in fact possesses more than a single pair of spurs.

The Red-legged Partridge is extremely common in the south-west of Europe, being distributed throughout the whole of France. In Portugal it is very abundant, and may be regarded as the Partridge of the Spanish Peninsula. It

RED-LEGGED PARTRIDGE ♂½ ♀

occurs in the Balearic Islands, and on the mainland in Italy. As a game bird it is not appreciated as highly as the Grey Partridge, running off from one end of the field as the shooters enter the other, nor do its merits on the table make amends, for few persons regard it as equivalent in flavour to its congener. It, however, affords better sport when pursued, according to the modern fashion of driving.

The nest of the Red-legged Partridge is made on the ground, usually under the shelter of some herbage, as the tall grass of a hedge-row, or in growing crops, it is simply a slight hollow, with a few withered leaves or dead grass. The eggs, which are said to be laid at rather distant intervals, vary from ten to eighteen in number, they are stone colour, spotted or blotched with darker brown. The first are usually laid in April or May, but owing to the long duration of the laying, the Red-legged birds are often later in the season than those of the Grey birds.

As game, Red-legged Partridges, except where the system of driving the birds towards the guns is pursued, are not highly esteemed by sportsmen. They are of much stronger flight than the common Partridge, and are usually so shy that it is difficult to get within shot of them. They run before the dogs, rarely, if they can possibly avoid it, taking wing, and unless the sportsman can drive them into some very thick covert through which they cannot make their way, he has a very slight chance of getting within shot of them. Hence they have in many cases been destroyed as vermin, and the keepers have trodden the eggs in the nest under-foot, in order to prevent their increase, to the detriment of the older birds. When wounded they will run to ground in any hole that they can find, such as a rabbit burrow, and when they do take wing, not unfrequently seek shelter in trees. The flesh of the Red-legged Partridge is much whiter and drier than that of our native bird, and is not in much request except on the Continent, where, however, it is highly esteemed. It is said to have bred in confinement, in this respect differing greatly from the Grey Partridge, which rarely breeds except when perfectly wild, it being an exceedingly uncommon occurrence to get a nest from a pair even turned into a large enclosure such as a walled garden.

In the earlier editions of "Yarrell," the Barbary Partridge, *Caccabis petrosa*, was figured and described, inasmuch as some few specimens have been shot in various parts of the British Islands, but it is now generally regarded by naturalists as a bird that had been artificially introduced, and as it failed to obtain a footing in this country, it is now rightly eliminated from the more recently published accounts of British Birds.

Family—PHASIANIDÆ.

THE QUAIL.

Coturnix communis, BONN.

THE Quails, though closely resembling the Partridges, are distinguished from them by their pointed wings and extremely short tails. They are birds of small size and migratory habits, and, though often found in vast flocks, do not associate in coveys. Their flight is swift and whirring like that of the Partridge, although they run with great speed. Their food consists of small grain, seeds, and insects. Some species are polygamous, but others pair. The common species, which is the only one found in Europe, may be taken as a typical representative of the whole group.

At the present time the Quail, though formerly much more abundant, is but sparely distributed throughout the British Islands during the summer months. Formerly, as we are informed by Mr. Booth, considerable numbers were hatched in the fen-lands, and he himself has secured seven brace in half a day's shooting in the pastures and arable lands situated in the outskirts of the fens. During the same period, Quails were abundant even in the immediate neighbourhood of Brighton, nesting near the town on the various parts of the downs. The total disappearance of the bird from this latter locality, for Mr. Booth stated that he had not heard their well marked and characteristic note for ten years, affords one of those strange occurrences in the distribution of birds with which naturalists are so familiar. In many cases in which the conditions of the country remain unchanged, the habits of migratory birds have altered greatly.

The Quail is a migratory bird, arriving in this country in May, and proceeding at once to nest in corn-fields as well as in the coarse tussocky grass of the less cultivated districts. In Ireland they are far more common than in England, and a considerable number remain in that country during the entire winter season. In Scotland it is well known in the western counties, and breeds in limited numbers. It has also been obtained from Stornoway, and the Islands of North Uist and Lewis. It is not so common on the east coast, but has been met with in all the counties as far north as the Orkney Islands. On the Continent of Europe it is generally distributed, and in some parts is exceedingly numerous, thus in Spain it is

QUAIL ♂ ♀

particularly abundant, many pairs remaining throughout the winter. It extends also from North Africa down to the Cape of Good Hope, and is even better known in Persia and India than it is in England, extending as far east as Japan. Most naturalists agree with Mr. Ogilvie Grant in assigning separate specific rank to the Quail of China and Japan *(Coturnix japonica)*. The male of this eastern bird differs from the European Quail in having the throat uniform dull brick-red, without any trace of the black anchor-shaped mark of the European Quail.

During migration they fly in countless numbers, which are spoken of by those who have seen them, as amounting to millions. Colonel Tickell, a well-known Indian ornithologist and sportsman, described the numbers existing in some parts of India as so great, that the shooting of them was mere slaughter. He said that a good shot would bag fifty or sixty brace in about three hours, and speaking of an Island in the Ganges which was sown with gram, he writes:—"I do not exaggerate when I say they were like locusts in number, every step that brushed the covert sent off a number of them so great that I had to stand like a statue and load and fire." In the migrations which take place from Africa across the Mediterranean into Europe, vast numbers are captured in nets which are put up on the sea coast of France and Italy. An exhaustive summary of the methods of capturing Quail employed in different parts of the world, is furnished in "Macpherson's History of Fowling," pp. 361-388.

The pairing note of the Quail is well known. In many parts of the country the bird is called "Wet my feet," from its trisyllabic call, which is rarely heard in the heat of the day, but usually during the evening and throughout the night in the months of May or June. Other authors describe the call-note differently. Thus Mr. Seebohm says:—"The familiar call of the Quail, which is said to be confined to the male only, is a clear flute-like note, or succession of three notes, which, though not very loud, can nevertheless be heard at a considerable distance. This note may be best represented by the syllables *click-lik-lik*, the accent sometimes being on the first and sometimes on the second syllable. The female replies by a double note, low and unmusical, which appears to be common to both sexes. The alarm-note, when the bird is suddenly surprised, is very similar to that of the Partridge."

The males fight desperately for possession of the females, occasionally even to a fatal extent. They were formerly kept for fighting in Europe, and this is still done in the East. The breeding in this country usually occurs in June, the nest being a small hollow in the ground. The female alone incubates, and the young birds, like all the *Phasianidæ*, are able to run about soon after they are hatched. Mr. Dresser says:—"There appears to be little doubt that the present

species is the bird that supplied the famishing Israelites with food in the wilderness. It has, however, been asserted by various authors that it was a flying fish, a locust, and a Sand-Grouse. But everything tends to prove that it must have been the Quail; for it was most undoubtedly a bird, and the present species is almost the only one that migrates in such great numbers as to answer to the description in Holy Writ. In such quantities does it migrate that, according to Yarrell, as many as 160,000 are recorded to have been netted, in one season, on Goat Island, a small Island at the entrance of the Bay of Naples; and Temminck states that near Nettuno, in the kingdom of Naples, a 100,000 have been taken in a day." Vast numbers of Quails are imported into England from the south of Europe by the wholesale poulterers. They are brought over in very low flat cages, open only in the front, before which are placed troughs filled with hempseed on which the birds are fatted.

The Quail is subject to many local variations in plumage, these some ornithologists have considered as distinct species. There is a black or semi-black variety in Spain, another form in South Africa, and several in Asia. All these breed together, and they may be regarded as local variations. The general colour of the typical species is sandy-brown, with buff shafts to the feathers. The throat is white, the male having two dark brown bands running from one ear to the other, and ending in a black patch on the throat, which, however, is not present until the second year. The under parts of the body are white, the chest being buff. The female has no black in the middle of the throat, nor does she possess the two throat bands of the male, but her chest is more thickly spotted with dark brown. The nest is a mere hollow scraped in the ground, and the eggs, which vary in number from seven or eight to twelve, are yellowish-white, spotted with umber-brown.

WATER-RAIL ♀ 3/4

ORDER FULICARIÆ.

THE family *Rallidæ* includes several genera of British Birds, the Water-Rails belonging to the genus *Rallus*, the Crakes *Porzana*, the Moor-hens *Gallinula*, the Coots *Fulica*, and the Corn-Crakes *Crex*. The habits of the birds of these different genera vary considerably, some being aquatic and others exclusively terrestrial.

Family—RALLIDÆ.

THE WATER-RAIL.

Rallus aquaticus, LINN.

THE Water-Rail, of which one species only is found in Europe, is generally distributed and a permanent resident in Great Britain and Ireland. It is also found in most parts of Europe, North Africa, and in Asia as far east as India, but in Japan it is replaced by another species, *Rallus japonicus*. To a certain extent it is migratory, many remaining throughout the winter, but others come in migratory flights from the north and disperse themselves over those localities in this country which are sufficiently moist to afford them shelter and food, thus, Stevenson, in his "Birds of Norfolk," writes:—"It is both a resident and migrant,

those which remain with us throughout the winter receiving considerable accessions to their numbers in March and April; and though a large portion of those which have bred in our marshes pass southward again at the close of the breeding season, migratory flights from the north are met with at intervals in autumn and winter. In support of this view of the habits of a bird not easy of observation at any season, I may state that between the middle of March and the first or second week in April, it is customary to find several couples of Rails in the Norwich market hanging for sale, with the Snipes that simultaneously make their appearance in our markets. From that time until the close of the breeding season, they are pretty generally dispersed over the country wherever moist localities afford sufficient harbour; and though, of course, more abundant on the Broads themselves, are known either by their cries or the chance discovery of their eggs and young, to frequent the margins of our inland meres, wet commons, and even rough sedgy watercourses."

The Water-Rail is a bird of exceedingly shy and retiring habits, and is therefore difficult of observation, always keeping to the dense vegetable growth of the marshy districts that it frequents, being seldom seen on open sheets of water or on dry localities. Though not web-footed it swims with great facility, and never hesitates to take to deep water. When swimming it closely resembles the Water-hen, its tail being raised up and its head jerking with every stroke of the foot. If it is pursued when swimming it will seek safety by diving. The flight of the bird is very heavy, with its long legs hanging down. It seldom flies far when flushed, but seeks refuge amongst the aquatic herbage. Nevertheless it is capable of taking long flights. The Rev. Robert Holdsworth is quoted by Yarrell as describing the capture of a bird of this species on the yard-arm of a Man-of-War, five hundred miles distant from land, in the Atlantic. This was captured by an officer of the ship and fed on meat, in a day or two becoming perfectly tame.

Messrs. D'Urban and Mathew give some interesting particulars of its habits in their "Birds of Devon." In that county it is usually called the "Skitty Cock," and is to be met with in almost every warm ditch where there is sufficient cover to hide its nest, or where the bird can skulk in the shelter which such places afford.

"When pressed by a Spaniel, we have seen it," writes these authors, "climb up and perch upon a bough, as a Moor-hen often does. We still possess eggs taken out of a nest which was placed in a hedge by the side of a drain, near our house in North Devon. When we resided in Wales, we had some Water-Rails about our grounds which were semi-domesticated, and

used to feed on the lawn in front of our dining-room window, in company with the Moor-hens. They were occasionally noticed running on the garden paths at dusk, when they looked like large rats. In severe frosts these Rails may be observed in the day-time feeding by the margin of warm drains, running into the hedge, and effectually concealing themselves in an instant, when any one approaches; after a continuance of hard weather, strings of Water-Rails may be found hanging up in the game-dealers' shops, proving that the bird is more numerous than it is generally supposed to be. Frozen out from their sanctuaries and half-starved, they then become the spoil of every hedge-popper. The flesh of the Water-Rail is very sweet and toothsome, but there is so little of it that we have never considered it worth while to lift our gun against the bird for the sake of the spit. Although so common a bird, its shy and retiring habits prevent it from being generally known, so that we are often having specimens brought to us as something very rare, and we once found one hanging up in the bar of an hotel, waiting for someone to say what it was, and were told that it had been there already for several days, and no one could name it, although there was a moor at the back of the hotel, intersected by sedgy drains, where Water-Rails were plentiful."

The food of the Water-Rail consists almost exclusively of worms and aquatic insects of various kinds, particularly small snails, but it does not take to any vegetable diet except when strongly pressed by hunger. Its cry is peculiar. It has been described as resembling the syllable *creek*. This it utters on the wing, but it often calls to its mate with a sharp whistle, which Dresser says resembles the sound produced by drawing a switch quickly through the air. Booth, who was most familiar with the habits of these birds, writes as follows:—"The extensive reed beds and trackless swamps that abound in the neighbourhood of the Broads, in the eastern counties, are admirably adapted to the habits of the species. On the slightest signs of danger they betake themselves to the thickest cover, and unless drove out by a dog accustomed to their skulking habits, usually escape observation.

Though but seldom seen, their strange cries may be heard at certain hours, almost continuously in fine weather during the summer months; the peculiar squeaks and grunts, however, that are emitted would never be supposed by any one unacquainted with their note to proceed from the throat of a bird."

The nest is made of coarse grass, and is concealed amongst aquatic plants. The eggs are cream coloured, speckled with brown. They number usually about seven or eight, but more have occasionally been found. In all probability two broods are reared during the season, as the eggs may be found from

April until as late as July. The young birds when hatched are clothed in black down, and are very expert at hiding themselves amongst the coarse water herbage in which they are usually produced.

The plumage of the bird is characteristic. The upper part of the male is olive-brown, with black streaks down the centre of the feathers; the sides of the face, neck, and breast is dull leadish-grey, and the flanks are black, well barred with white; the legs and feet are of a brown flesh colour, and are naked above the tarsal joint. The female has the same markings but is duller in colour, and occasionally shows some white bars on the wings. Varieties of colour are not very frequent, although the bird has such an extensive range of distribution. The young birds have the iris brown, but as the bird approaches maturity the eye becomes a rich orange-red. The total length of the bird is about ten inches.

Family—RALLIDÆ.

THE SPOTTED CRAKE.

Porzana maruetta, LEACH.

THE genus *Porzana* includes three species which are fairly entitled to be considered as British, the Spotted Crake, *P. maruetta*, which is to be regarded as the type of the group; Baillon's Crake, *P. bailloni;* and the Little Crake, *P. parva*, both of which are rare visitants to this country. The Spotted Crake is a migratory species, which inhabits Europe generally during the breeding season, migrating in the autumn southward, and wintering in North Africa. It may be regarded as a somewhat local bird in England and Scotland, and is even less numerous and but a very irregular summer visitant to Ireland. In England it is more frequent in the maritime counties than in those which are inland, and

SPOTTED CRAKE ♂ $\frac{3}{4}$

according to Yarrell, has been recorded in Cornwall, Devonshire, Dorset, all round the southern coast and up the eastern, as far as Northumberland and Durham. Stevenson says that it occurs regularly in the Broad and fen districts of Norfolk in the summer months, and he regards it as being more frequent than is generally imagined, in consequence of its inhabiting the impenetrable swamps in which the nests cannot be found, and out of which the birds cannot be flushed. With the drainage of the fens they are, however, becoming scarcer than formerly. Stevenson states that he has found the bird frequently in the rough marshes adjoining the reed beds, but the quickness with which the bird threads its way through these localities will baffle even the best dog. Mr. Cordeaux, in his "Birds of the Humber District," states that though locally distributed, it is by no means uncommon in certain localities on each side of the Humber.

Mr. Booth, one of the most practical of our ornithologists, regards the species as more common than is generally imagined. He says that it is doubtless plentiful in many suitable localities in England, though escaping notice in very many instances, owing to the inaccessible nature of its haunts, and the difficulty of forcing it to take wing. He states that, in certain boggy spots in the fens, near Ely, he discovered two or three nests some twenty-five years ago, and that more recently, in Norfolk, the species has been met with in considerable numbers. From its extreme secretiveness, even the dates of its migration cannot be accurately ascertained. It is obvious that the greater number take their departure before the cold of winter sets in, although a few stragglers may remain later.

Stevenson writes:—"On two or three occasions I have shot this Crake when looking for Snipe at Surlingham, where both young and old, before their departure in October, frequent the rough marshes surrounding the reed-beds; but in these localities even a dog well accustomed to the spot will sometimes be baffled altogether by the quickness with which the bird threads its way amongst the tangled grass, or slips round the little tussocks. When too closely pressed, also, and compelled to take wing, it not unfrequently flies so low, in a line with the dog, that it pitches again before a safe shot can be had; and most probably it drops amongst the reeds, and is seen no more. On the 4th of September, 1861, four were shot at Stalham on the same day; but I find from my notes for the last twenty years, that the majority of the specimens brought to our bird-stuffers for preservation have been killed between the 2nd and 29th of October. On the 22nd of October, 1856, one old bird and three young of the year were shot at Rockland. About that time, I believe, the greater number take their departure for the south; but stragglers are occasionally met with throughout November, of which I have records, in different seasons, on the 2nd, 9th, 16th, and 30th. I

have also been assured by the marsh-men that this Crake may be found at times in mid-winter; but one shown me in the flesh on the 2nd of December, 1868, is the latest I have ever known. As the birds observed thus late in the year are almost invariably in immature plumage, they are most probably the result of a late hatch, and therefore unable to join the earlier migrants."

The habits of the Spotted Crake are like those of its near allies, it is exceedingly secretive, and is far more frequently heard than seen. It seeks shelter in the swampy localities in which it nests, and it is extremely difficult to force it to take wing out of the reeds, through which it seems to creep and glide with great ease. If followed by a dog it usually escapes by running, and it is only when hard pressed that it will take wing, flying a short distance and dropping again into the reeds. Like the other Crakes it flies heavily, the legs usually hanging down behind, although when on migration they are stretched out behind. Dresser does not regard it as a shy bird, afraid of man, as if one moves about quietly when in the vicinity of the nest, or remains quite still, it can often be watched without much difficulty. D'Urban and Mathew say:—

"From our own experience in Somerset, the Spotted Crake is a common bird in that county in many places, and we consider it to be a resident there throughout the year. In the neighbourhood of Weston-Super-Mare we used to find young broods in sedgy ponds and ditches, on the level, in July and August. We possessed a very clever setter at the time, who caught the birds in the cover and brought them to our hand. Only when they were very hard pressed did they ever take wing, and, standing on the higher ground above the drain, we have watched them threading their way through the sedge and rushes, running before our dog like rats, and have had them run out from the drain and squat in a little tuft of grass at our feet. Not wanting specimens, and knowing them to be rank of flesh and unfit for the table, we did not molest them; but we have in earlier years fired at them and shot them, when Snipe shooting, near Taunton, at the end of November, and when we were Sniping on the peat-moors, in Mid-Somerset, we never went there at any time in the winter without finding the Spotted Crake plentiful. On these moors the bird is well known to the local shooters, the men who are always prowling after Snipe and Duck to sell to the game-shops, as the 'Jackymo'; and as our dear old setter used always to drop when he was close to his bird, we have walked up to him sometimes to find a 'Jackymo' sitting on the ground quite unconcernedly between his outstretched fore legs. We have never wandered over the Somerset peat-moors in May and June, but had we done so with our clever dog, we feel confident we should have come across nests and eggs of the Spotted Crake. On the Dartmoor bogs we have never flushed

any of these Crakes, the country being too high and exposed for them."

Its voice is a loud *Kweet*, which may be heard in the evening or at night. The food, like the other birds of the genus, consists of aquatic insects, small worms, snails, and larvæ, and possibly occasionally tender shoots of water plants and young grass seed.

The nest of the Spotted Crake is always in a wet locality, and is generally so placed that the bird can reach it only by swimming. It resembles that of the Water-Rail, being an untidy structure of reeds and leaves of aquatic plants, lined with finer material. It is always exceedingly difficult to find, being carefully concealed amongst the reeds or in the long water grass, and is placed either on the damp ground, or very often on a platform of broken down reeds, the bases of which are in the water. The eggs are usually from nine to twelve in number, and are laid during May or June. In ground colour they are warm ochreous, marked with fine dots and blotches, which are tolerably regularly scattered over the shell.

It is singular that there should be a great difference of opinion regarding the value of this bird as food. Mr. Booth says that when skilfully dressed for the table, it is decidedly preferable to the Jack Snipe, whose flavour is by many considered superior to that of the full Snipe; whereas Messrs. D'Urban and Mathew term the Spotted Crake as "being rank of flesh and unfit for the table." But it is possible that this difference of opinion may arise from the birds feeding on different substances, at various seasons, and in different localities.

The coloration of this species is not very distinctive from that of the Corn Crake, but the smaller size of the Spotted Crake, which is only about nine inches in extreme length, at once serves to distinguish it from the more common and less aquatic species—from which it is readily known by its yellowish beak, which is reddish at the base. The general colour of the plumage is hazel brown, spotted profusely with white; the feathers on the back have each a black centre, and the margins are streaked with white; the sides and flanks are barred with white. The female is similar to the male, but slightly smaller, and duller in colours. The young, when first hatched, are covered with very lustrous green-black down. Like those of the whole group, they are active from the first, and take to the water immediately after leaving the nest.

Varieties of this species are not common, but Yarrell records one in which the front part of the neck was of a bright rose colour.

Family—RALLIDÆ.

THE LITTLE CRAKE.

Porzana parva, SCOP.

THIS species may be regarded as a rare visitor to the east coast of England. Stevenson, in the "Birds of Norfolk," records it as having been obtained thirteen times in that county alone; it has also been captured once in Scotland and once in Ireland. No nest has ever been recorded, although it is very possible that it may have bred in England.

With respect to its mode of life, Stevenson justly remarks:—"If the habits also of the larger, and certainly more abundant species of Rail, are difficult of observation, how much more so those of the Little and Baillon's Crake! whose small size and strictly aquatic nature afford every possible means of concealment, render their capture at any time a mere matter of chance. Judging, therefore, from the localities in which our Norfolk specimens have been found, and from the fact that the dates, where known, correspond exactly with the spring and autumn migrations of the Spotted Rails, we may, I think, fairly class the Little Crake, (and the same reasoning applies equally to Baillon's), amongst those birds of passage which, for a time at least, periodically frequent our marshes. It is true the nest and eggs of the Little Crake have never been identified in Norfolk, nor, until the summer of 1866, was there any record of those of Baillon's Crake having been taken; yet in the very same locality, (Heigham Sounds), where eggs, presumed to be of the latter, were discovered by the merest accident, both species have been observed in spring, and both, in all probability, remain occasionally with us to breed. It should, however, be remarked that, with one exception, (the locality of which is unknown), the specimens here recorded, though produced within the bounds of the 'Broad' district, were all found in the vicinity of the smaller broads, or on the 'ronds' bordering upon the Bure and Yare, where it is obvious the chances of flushing them would be infinitely greater than amidst the interminable tracts of reeds which characterize our larger waters."

On the Continent the Little Crake occurs sparingly in the north, but more frequently in the southern districts, breeding plentifully in South Russia, and extending eastward into Turkestan and Sinde. In its general habits it closely

LITTLE CRAKE ♀ ♂ ⅘

resembles the allied species, the Spotted and Baillon's Crakes. It is exceedingly secretive, hiding itself in marshy places, overgrown with reeds and tall grass, in which it can find shelter, and from which it is extremely difficult to be driven. When pressed by dogs it rarely takes wing, and then only when closely pursued, but prefers to take refuge amongst the most dense growth of sedges and reeds. Like the other Crakes it swims readily and with much ease, but when it takes wing it flies very heavily, and takes the earliest opportunity of seeking the shelter of the aquatic herbage. Of its habits but little is known from observation in this country, but Naumann states that it is far more aquatic than Baillon's Crake, with which it has not unfrequently been confounded, and, as quoted in "Yarrell," he asserts that it "will even boldly show itself, uttering its loud defiant call-note *kik*, *kik*, *kik*."

Dr. Butler, who found several nests in Germany, described one as rather flat, but in form carefully constructed of dry flag leaves, and raised almost a foot above the surface of the water; a second, rather rudely built on dead aquatic herbage, was only a few inches from the water; whilst a third was composed of dry sedge-grass. The eggs appear to be seven or eight in number, of an oval form, rather larger and paler than those of Baillon's Crake: light olive-brown in colour, flecked with darker brown, and measuring about 1·1 by ·86 inches.

The sexes in this species differ greatly in plumage. The male has the upper parts olive-brown, with all the feathers blackish in the middle, varied with some white marks which are but sparingly distributed; whilst the under parts are bluish-grey, without any spots of the colours, but the thighs are spotted with white, as are the under tail-coverts. The total length of the bird is eight inches. The beak is green, with red at the base; the eye bright red; the legs and feet green. The female, which is slightly smaller, has the under parts very pale brown, the chin white, the flanks and under tail-coverts are greyish, with white bars, and the colour of the beak and iris much less strongly marked than in the males. The young, in their first plumage, are still paler, and the chicks, when just hatched, are uniformly clothed in black down.

Though called the Little Crake, it is larger than Baillon's Crake, from which it is distinguished by its upper parts being much less spotted, and by its wing-coverts being entirely free from white marks. The total length of the male, which is slightly the larger of the two sexes, is eight inches.

Family—RALLIDÆ.

BAILLON'S CRAKE.

Porzana bailloni, VIEILL.

BAILLON'S Crake, so named by Vieillot after its first observer, is but a rare visitor to England, although it has been obtained in every month of the year; it has also been captured in Scotland and in Ireland. On the Continent it is found in central and southern Europe, but does not extend to the northern regions. In Africa it is found in all favourable localities down to the Cape Colony, where it breeds freely in the marshy districts, and in Asia it extends to the far east.

From the rarity of this bird in this country, and its extreme shyness, but little is known regarding its habits in England. The description given by Lord Lilford, who was fully acquainted with the species as it exists in the marshes of eastern Sicily and in Spain, where it is common, may be quoted with advantage. Lord Lilford writes:—

"My principal acquaintance with this species was formed in the marshes of the lower Guadalquivir, where we found it breeding in great abundance in May. In general habits this Crake much resembles the better known Spotted Crake; but it is decidedly more aquatic and less often to be met in open marsh-lands than that bird. The nests that we found were always well concealed amongst the dense masses of reeds and sedge that fringe and often conceal the runs of fresh water that meander through the vast open 'marisma,' —a district that in rainy seasons or very high tides is frequently entirely submerged. The nests that I examined were exact minature copies of those of the common Water-hen, being loosely composed of reed leaves, flags, and sedge. The usual full complement of eggs was seven; but we occasionally met with five or six, partially 'set,' and, in one instance, with eight. These eggs vary in colour from a very pale green to a dark olive ground, but are always very closely streaked and spotted with brown. The young birds on leaving the egg are entirely clad with thick jet-black down. Towards evening these birds come out for a short distance from the thick covert that they love so well, and, as far as I could make out, feed largely upon mosquitoes

BAILLON'S CRAKE ♀ ♂♂

and other small insects; but on the slightest alarm they glide back at marvellous speed to the safety of the jungle.

I do not know any bird that is so difficult to flush as this; the most close hunting-dogs are frequently entirely baffled. The only remains of food that I could find in these Crakes, by post-mortem examination, consisted of small insects and fragments of minute shells; but I must admit that I never examined them under a microscope. This species swims easily and readily, but, as far as my own experience goes, seldom ventures upon the open water. If taken alive and unhurt, this Crake, after a few savage pecks at the fingers of its captor, and one or two struggles to escape, will feign death, dropping its head, closing its eyes, and becoming perfectly 'limp'; but keeping a sharp look out, and stealing off at the first opportunity."

In the adult male the bill is green, slightly red at the base; the upper parts are brown, with streaks of black and white; the under parts are slaty grey, the flanks being barred with black and white. It is readily distinguished from the allied species by the outer web of the first flight feather of the wing being white; this feather in the Little Crake is invariably brown. The female has the chin nearly white, and the under parts are much paler grey. The young in their first plumage resemble the female, but the under parts are barred with brown. Baillon's Crake is the smallest European species of the family, its length being only seven inches.

Family—RALLIDÆ.

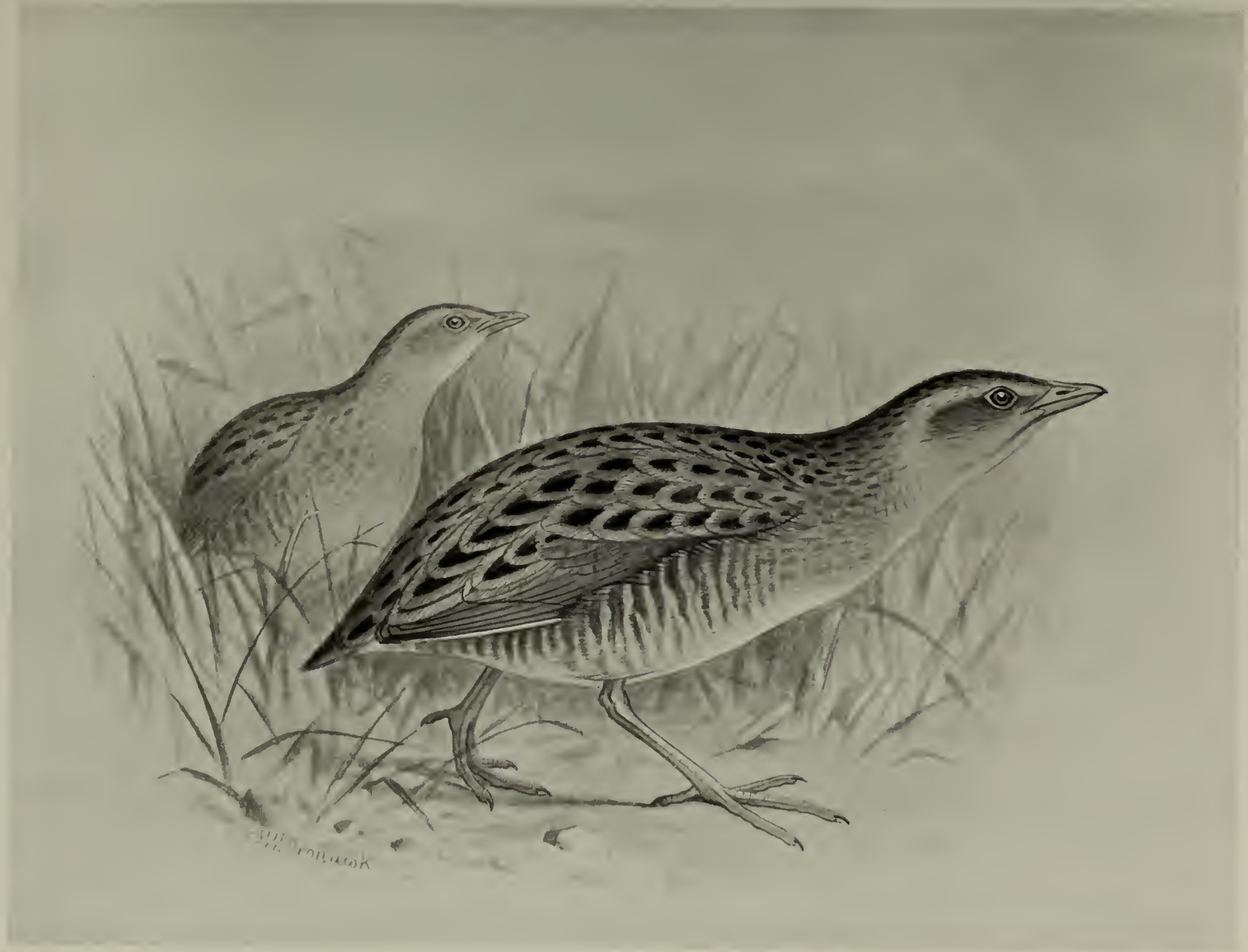
THE CORN-CRAKE.

Crex pratensis, BECHST.

THE Corn-Crake, or Land-Rail, is a summer migrant, coming to this country in April for the nesting season, usually leaving in October. It is very generally distributed throughout the whole of the United Kingdom; and, like the Quail and other migratory species, it occasionally remains in this country throughout the entire winter, more especially in Ireland, where the cold is less severe than in Great Britain. In that country it has occasionally been found in a comatose condition during the winter, for Sir Ralph Payne-Galwey, in the "Fowler in Ireland," states that he has twice found Land-Rails, apparently asleep, in February, in hollows in loose stone walls near the ground; and Mr. Reeves, of Queen's County, has also found them in the same condition in rabbit holes, in February. The Corn-Crake is generally distributed throughout central Europe and Russia, south of the Baltic, but in the southern parts it appears chiefly as a bird of passage. To the eastward it extends as far as Northern India.

The Corn-Crake is much better known to the inhabitants of this country by its voice than by its appearance. It frequents cultivated districts and low-lands, preferring meadows and fields where the ground is open and there are but few bushes or trees, showing a strong partiality for clover fields. As soon as it arrives in the spring its well-known harsh voice, uttering the syllables *krek*, *krek*, may be heard in most parts of the country. It is commonly supposed to possess ventriloquial powers, as it is most difficult to judge of the position of the bird from its voice, which varies at short intervals from a very loud to a soft note, sometimes appearing quite close and at other times a considerable distance, and has been described as an unseen mysterious creature that seems to be possessed of the power of being in different places at the same time.

The Corn-Crake is an exceedingly shy bird, always endeavouring to evade observation, and its peculiar form enables it to pass readily amongst the grass and corn, rarely taking wing, but preferring to seek safety on foot. It is rarely, in fact, to be seen unless searched for with dogs, although Lord Lilford says that in the west of Ireland he has more than once seen one or two of them running



♂ Autumn Plumage

Corn-Crake ♂♀

Breeding Plumage

about the high road, and noticed them perched on the tops of the stone walls. The favourite food of the Corn-Crake consists of small snails, to which they add slugs, worms, and insects. In dry seasons they take to the wet ditches and frequent aquatic plants on the banks of the brooks. After the hay harvest they resort to fields of standing corn or preferably to clover. It has been frequently noted that they avoid the neighbourhood of fences, preferring the open pastures.

In many districts the Land-Rails are exceedingly common in the early summer, when they first arrive after migration, but it is remarkable that very few are acquired in the shooting season, which is accounted for by the fact that a very large number of eggs are destroyed by the mowing machines, and also by the difficulty of making the birds take wing out of the clover or standing barley which is generally found in September. Lord Lilford says, admitting these facts, "it is remarkable that though with good dogs there would be little difficulty in shooting from twelve to twenty Land-Rails in our meadows in a few hours in early May, it is very seldom that our total bag of these birds during the shooting season has reached a dozen." The custom of shooting these birds on their first arrival, though not uncommon, is an unsportsmanlike practise, which is very greatly to be regretted. It would be much more advantageous to allow the birds to nest and bring off their young during the summer, but the Corn-Crake is ardently pursued owing to the extreme excellence of its flesh, which, however, is in the best condition in September.

The nest of this species has been more carefully described and beautifully illustrated by Mr. Oswin A. J. Lee, in his admirable work on the "Nesting Haunts of British Birds," than by any other writer. He says:—

"The nest is always on the ground, generally among the meadow-hay, or in some patch of nettles or dock-weed in some dry ditch or hollow in the field. It is usually placed in some slight hollow in the ground, often scraped out by the birds themselves, and is a very carefully built structure, the materials being firmly interwoven with each other, and beautifully rounded. It is chiefly composed of sedges, coarse dry grass, withered leaves and grass roots, and is carefully lined with fine dry grass, almost like a larger edition of the Meadow Pipit's nest.

The number of eggs laid varies usually from nine to twelve, nine being the average clutch. I have twice seen nests which contained fourteen eggs, and once came across one with thirteen. They vary in ground colour from dirty bluish-white to very pale buff, and are blotched or spotted with red-brown surface marks and pale violet-grey underlying marks. The spots are not, as a rule, very numerous, and do not cover much of the ground colour. They are generally pretty evenly distributed over the entire surface of the egg, and not at one end.

On some specimens the marks are quite large blotches, while on others they are mere specks. They vary in length from 1·5 to 1·4 inch, and in breadth from 1·1 to 1·0 inch."

The young, when hatched, are in rich black down; they are very active immediately after they leave the nest, seeking for insects on the grass stems, and clustering about the mother in the same manner as chickens around a hen.

Though usually extremely shy, under certain circumstances the Corn-Crake appears very fearless of man. By drawing the nail across a comb, the strange voice of this bird can be readily imitated, and if this is done and the operator stands perfectly still, the birds will approach him, and, as Messrs. D'Urban and Mathew say, will even run about between his legs. If the nest is discovered, the hen bird will, if quietly approached, remain seated on the eggs, and Mr. Oswin Lee recounts the fact that when taking a photograph of a nest, the hen came a few yards from him, crossed a patch of short grass, and walked slowly up to the nest, where she carefully turned all the eggs with her bill before settling herself upon them. This operation, he says, lasted nearly ten minutes, during which time she paid not the least attention to him, although he moved several times. The male kept continually calling, being answered by another bird in the distance, but the sitting hen did not utter any sound, either on the nest or when returning to it.

The Land-Rail has been frequently kept in confinement, and thrives perfectly if placed in a large aviary, becoming exceedingly tame and dangerously aggressive to the other birds. If captured, as they occasionally are, by a dog, and brought to the sportsman, they are in the habit of feigning death, and waiting for an opportunity of escape into the high grass. Though flying unwillingly when flushed, their powers of flight, when once on the wing, are very great, as is proved by their annual migration, and occasionally, when repeatedly flushed, they will rise in the air and pass away at a great height, with a speed equal to that of a wild Duck.

The general plumage of the Corn-Crake is yellowish-brown, the feathers on the upper parts having dark centres. The under parts are lighter, the breast being greyish-buff. In the autumn the grey of the under parts is replaced by reddish-buff, and the bars on the flanks are less defined and suffused with chestnut. The length of the adult is about ten inches and a half. The young, on leaving the nest, are closely covered with short black down, slightly dotted with white. The coloration of the species varies considerably, and the representations of the birds in works as recent and authoritative as Dresser's "Birds of Europe," and Lord Lilford's "Birds of the British Islands," are striking distinct.

MOOR-HEN ♀ 3/5

Family—RALLIDÆ.

THE MOOR-HEN.

Gallinula chloropus, LINN.

THE Moor-hen, which is also known as the Water-hen and the Common Gallinule, is found all over the United Kingdom, and is generally distributed throughout Europe, except in the extreme north. In Africa it extends to the Cape. In the northern part of its habitat it is a migrant, coming south during winter, but in England it may be regarded as a permanent resident. In Ireland it is generally distributed. It is not confined to Europe, but extends across Asia as far as Japan, and even into the islands of Java and Sumatra.

The Moor-hen is found in marshes, streams, and large ditches, where it can find suitable shelter in the covert, formed of reeds and other aquatic plants. It is by no means a shy bird, and those that inhabit ponds near houses become very tame, feeding with the poultry and the ducks, but the wilder birds are exceedingly wary; the moment they are approached they dive, and remain concealed, the beak only showing above the water. It is admirably adapted for its aquatic residence, swimming under water with great facility, being propelled by the action of its wings as well as its feet. Its flight in the air is more laboured, it flaps heavily forward, with its long legs dangling down and its neck stretched out in front. Its voice is loud and far reaching. The call note, which is often uttered in the evening, resembles the syllables *crekrecrek*, and it also produces a note like that of the frog. The young birds have a querulous pipe, but on the first appearance of danger they hide and utter no sound.

The Moor-hen feeds on both animal and vegetable substances, worms, beetles, snails, and water insects forming its chief food, to which it adds the shoots of grass and seeds of aquatic plants. Its food is mainly obtained from the water, but after rain it may be observed, both in the morning and the evening, seeking for slugs and worms on the land. The nest of the bird is rather a clumsy structure, constructed of dried leaves and blades of grass; sometimes, however, it is made in thorn bushes or in trees by the river side. Both sexes assist in building the nest, which is made early in the season, and sometimes two or three broods are raised in the year. The eggs are usually seven or eight in number,

and are grey, with a smooth but not glossy shell. Both sexes incubate, the female taking the night duty. Lord Lilford states that he has several times observed young birds of the first brood assisting their parents in building a second nest; he adds:—"I look upon the Water-hen as an enemy to the game preserver, not only from the quantity of Pheasant food which it devours, but from the fact that it will attack, kill, and eat young birds of all sorts. The bird is a great favourite of mine, and I should be sorry to encourage its destruction, but I am persuaded it is a dangerous neighbour to young game birds."

The female Moor-hen has the fore part of the plumage deep greyish slaty-blue, the back and wings being dark brown, as are the quill feathers, but the first primary has an edge of pure white, and the flanks are covered with long white stripes. The base of the bill and front of the head are bright red, and the legs are dull green, with a red band upon the tarsal joint. The female is about thirteen inches in length. The males resemble the females, but it is remarkable that they are smaller in size and duller in colour. The young, when first hatched, are covered with hair-like sooty down, with white points on the head and throat.

Mr. Oswin Lee writes:—"It is a very pretty sight to see these graceful birds walking gingerly along the top of the floating weeds or dense masses of the leaves of the water-lily. When suddenly alarmed on the water, the Moor-hen usually dives at once, and swims with great rapidity under water to the nearest cover of reeds or water-plants; there it will often lie hid for a considerable length of time with only its bill projecting above the surface. Like the Grebes, the Moor-hen will dive with its young, holding them under its wing, and conveying them to a place of safety. In severe winters the Water-hen leaves its haunts, which have been completely frozen up, and betakes itself to some farm-yard or poultry-pen where it contrives to find a living till thaw sets in and it can return to its usual quarters. On such occasions they are very tame, and I have often seen them in a poultry-yard feeding among the hens quite unconcernedly."

The flesh of the Water-hen may be regarded as very good food, and the eggs are much sought after for their excellence, and were it not for their destructive tendency amongst the young of other species, they would stand a very fair chance of being protected for their utility. In some places the Water-hens are largely preyed upon by foxes. They are also devoured by otters, and the young birds are swallowed by the carnivorous pike.

The Moor-hen is one of the birds in which a singular variation of plumage may be occasionally observed. The feathers are destitute of the smaller barbules that hold the barbs of an ordinary feather together, and causes it to constitute a plain surface, hence each feather becomes hairy, the whole plumage having a soft

COOT $\frac{3}{15}$

look, such as may be seen in those varieties of fowls termed silkies. Mr. J. H. Gurney paid much attention to this singular modification, which appears to be rather more common in the Moor-hen than in any other wild English bird. In the silky fowls the modification is hereditary, and the breed well established. There is no doubt that by mating together hairy Moor-hens the variation might be perpetuated in this species as well as in the ordinary poultry. It is in the highest degree improbable that, in the cases in which this variation occurs, the bird has the power of flight, for the vanes of the feathers are not sufficiently firm to strike the air.

Family—RALLIDÆ.

THE COOT.

Fulica atra, LINN.

THE Common Coot may be regarded as the European representative of the genus *Fulica*, of which it is the type. A second species, the Crested Coot, characterized by two conspicuous red knobs on the top of the white frontal shield, is found in Africa and the extreme south of Europe. The common species also extends throughout the whole of Asia to Japan. In England it is to be met with in every county where there are open waters and reedy ponds. It is more rarely seen on rapid rivers, but is plentiful in the fen districts, although from the increasing prevalence of gunners, it is much less numerous than was formerly the case. In the islands of the north of Scotland it is local, and only a straggler to the Shetlands. In some of these localities it is migratory, many of the birds leaving at the commencement of the cold season. In Ireland it is permanently resident. In the colder portion of its range, the Coot may be regarded as a migrant, leaving for warm countries during the winter. Thus it may be observed in thousands in the lagoons in Sardinia and Corsica, and in suitable localities in Spain, arriving

at the beginning of winter, the majority leaving for their more northern nesting places on the return of spring. The Coot delights in the margins of ponds and lakes which are overgrown with aquatic plants, where it can find secure hiding places. When seen on the water it is generally near to the reeds in which it can take refuge. Its large feet are admirably adapted for swimming and running over the soft mud. It can even climb with them into thick bushes and occasionally roosts in them. On the water it swims and floats with ease, its tail and neck being jerked to and fro with every stroke of the feet. It dives with great readiness, is exceedingly shy and wary, when alarmed often keeping the body submerged under water, the eyes and beak only being above the surface. When it takes wing from the water, it does not rise at once into the air, but splashes along for some distance with its wings and feet.

The voice of the Coot may be described as a loud cry, which has been compared by some authors, when several are calling together, to the shrill barking of a small dog. The food of this bird consists of aquatic insects, vegetable substances obtained from aquatic plants, and shell-fish procured by diving. The bird is a nocturnal feeder, and in Egypt, where the species abounds, is netted at night in considerable numbers. Lord Lilford, who was acquainted with the habits of these birds in the Mediterranean countries, where they congregate in enormous numbers in the winter months, says that battues are organized for their destruction on days fixed by the authorities. He states that until he took part in one of these, he had no idea of the speed at which a driven Coot could fly, and that he regarded a Coot as affording quite as sporting a shot as a Pheasant under the same circumstances. Lord Lilford also informs us that—"In Epirus, where the Coot is exceedingly abundant, I several times witnessed the curious manner in which these birds defend themselves from the assaults of feathered enemies by gathering together in a compact mass and simultaneously throwing up a sheet of water with their feet when the *raptor* made its stoop. On one occasion of this sort, the assailant, an adult White-tailed Eagle, was so thoroughly drenched by this device that it had great difficulty in flapping along to a tree at not more than a hundred yards from the point of attack"; and he describes the cry of the Coot as a whistle which he has frequently heard after dark, apparently proceeding from a considerable height in the air.

The beak of the Coot is a pale flesh colour, and the bare patch on the forehead perfectly white, hence the name of Bald Coot which is frequently given to it; below the eye is a small half circle of white. The remainder of the plumage is sooty-black, and slaty-grey in some parts. The secondary wing-feathers are tipped with white, forming a very narrow bar across the wing. The legs and

feet are dark green, as are the membranous expansions from the sides of the toes. The length of the bird from the beak to the extremity of the tail is eighteen inches. Partially and wholly white varieties have occurred.

The flesh of the Coot is very indifferent eating, though in demand in certain localities. Lord Lilford, in his "Birds of Northamptonshire," informs us that:—"The Church of Rome holds that this fowl is fish, and permits Coots to be eaten on fast-days and during Lent, so that in the countries that border the western Mediterranean these birds will always fetch at least the cost of a charge of powder and shot. The most I can say of the flesh of these birds is that it is eatable when nothing better is to be had."

The Coot nests usually amidst a mass of flags and rushes, collecting together a large mass of reeds and water plants that are capable of floating with the rise and fall of the water. Mr. Oswin Lee describes, in a very interesting manner, the fact that the Coot occasionally removes its eggs from one place to another. He writes as follows:—"I have on two occasions observed the Coot remove its eggs from the nest. The first occasion was on the advent of a high flood. While fishing one day in a pretty heavy and rising stream on the Forth, I saw a Coot swimming to the shore from a small island of reeds carrying something in its bill and pressed against its breast. On going closer I found it was an egg. I saw her carry four eggs to a rough nest on the bank before the nest in the patch of reeds was submerged. I have reason to believe that the young birds were safely hatched out from the new nest. On the other occasion the rats had carried off several of the eggs from a Coot's nest on the banks of a small pond at home, and I saw the old Coot carrying an egg, held in her bill and supported on her breast, to an overhanging rhododendron, on a small island near. On investigation I found three Coot's eggs in an old Water-hen's nest; the bird, however, did not succeed in hatching them out.

From seven to twelve eggs are usually laid by the Coot, sometimes as many as fourteen, though nine is an average clutch. They are pale buff—very nearly white—in ground colour, spotted pretty evenly all over with small very dark brown specks, varying from the size of a pin's head to tiny dots, and in some cases there are a few greyish under-markings. They differ very considerably in size, even in the same clutch, and vary in length from 2·2 to 2·0 inches, and in breadth from 1·5 to 1·1 inches. They are quite unlike the eggs of any other British Bird.

Young in down are black, some of the filaments on the head and neck being tipped with white and red, the tip of the bill is bluish-white, with a black spot on the point, the base of the bill is scarlet, shading into orange on the face, and there is a bluish stripe above each eye extending to the ear."

Family—GRUIDÆ.

ORDER ALECTORIDES.

THE CRANE.

Grus communis, BECHST.

THE Cranes, in consequence of the similarity of their external appearance, were formerly associated with Herons, from which, however, they are remarkably distinct, not only in internal structure, but in habits. The Herons are carnivorous, the Cranes, on the contrary, feed mainly on vegetable substances. This mistake is strongly illustrated in Raphael's cartoon of the "Miraculous Draught of Fishes," where the artist introduces Cranes in place of Storks as waiting for the spoil of the fishermen. Many of the Cranes are exceedingly destructive to corn crops, and Mr. Howard Saunders informs us that the common Crane, in Spain, is so partial to acorns that it interferes with the fattening of the pigs in the forests, and is consequently persecuted by the proprietors. The various species are widely distributed over the globe, many being migratory. They frequent open spaces, where they are so wary that it is difficult to get within gun-shot of them. On the wing they fly well and swiftly, and take long migratory journeys.

The so-called Common Crane was formerly well known in England, and, as shown by Mr. Harting, in an interesting article on "Cranes at Christmas," was formerly regarded as being as indispensable to a first-rate dinner at that period as the Turkey is at the present. At that time it was obtained usually by hawking at it with Gyrfalcons, and appears in the bills of fare of many of our early monarchs, from William the Conqueror forwards, its abundance being testified by the fact that at one feast in Edward IV time no less than two hundred and four Cranes were served up. Gradually it became much scarcer, and in 1534 an Act of Parliament was passed to protect the eggs of the Crane, Bustard, and other birds under heavy penalties. Willughby, in his "Ornithology," 1678, speaking of Cranes says, they often come to us in England, and in the counties of Lincolnshire and Cambridgeshire there are great flocks of them. Now it is doubtful whether the Crane has bred in England since the seventeenth century, and except as an occasional visitor it is no longer to be regarded as an inhabitant of this Island, although Mr. Cordeaux quotes one of the Fen Laws passed in

CRANE 8½

1780, that no person shall take Crane's eggs or young birds under a penalty of three shillings and fourpence, an edict which, as Mr. Cordeaux remarks, looks very much like shutting the stable door after the horse was stolen. At the present time it is only occasional migrants that are shot in this country. One was killed in the Scilly Islands in 1881, another at Spalding in 1882. In December, 1889, a specimen was shot on the coast of the Bristol Channel. This specimen was carefully examined and mounted by Mr. Bidgood, of the Taunton Museum. Its weight was thirteen pounds, and its length, from the bill to the extreme tail, four feet, and the expanse of the wings seven feet. The bird was shot while feeding. Its food consisted of beans with a few field snails.

That the Crane would visit this country on its migration, if not persecuted, is evident from the fact that Lord Lilford states:—

"I have a most distinct recollection of having, when a child, seen two immense birds flying over Hyde Park corner, which filled me with astonishment and curiosity; and it was not till some fifteen years later, when in Spain, I saw Cranes on the wing that I was able to identify, without the slightest doubt, the birds that had so much excited my youthful mind. Throughout the south of Europe, at the season of migration, long strings of Cranes may be often seen, and still more often heard, passing high in air, and in February and March the great plains to the south of Seville may generally be correctly called full of them. A few pairs remain to breed in Andalucia, but the principal breeding quarters of the Crane in Europe are the great morasses of the far north." Lord Lilford adds:—"In my opinion the flesh of a young Crane is most excellent, and an old one may be made into very good provend by skilled culinary treatment. In captivity our bird is delightful from its tameness and the quaint antics and attitudes that it assumes, and its loud trumpet-like cries are by no means unpleasant. If one of a captive pair of Cranes dies, the distress of the survivor is most touching to witness, and from my own experience of many birds in confinement, I am inclined to attribute the palm of affectionate social instinct to the present species."

"In the Holy Land," writes Canon Tristram, "the Crane is well known, and is, next to the Ostrich, the largest bird in the country. It only visits the cultivated region at the time of its spring migration, when a few pairs remain in the marshy plains, as by the waters of Merom, but the greater number pass onwards to the north. In the southern wilderness, south of Beersheba, it resorts in immense flocks to certain favourite roosting-places during winter. The clouds of these enormous birds, four feet high and many eight feet from wing to wing, quite darkened the air towards evening. Their roosting-place was marked like some resort of sea-fowl—a gently sloping isolated knoll, where no ambush was

possible, and where they could keep a good look-out on all sides. Their whooping and trumpeting enlivened the watches of the night, and till dawn we could hear the flocks passing overhead on their way to their quarters close by."

Of the nesting of this species little was known until the discovery of Mr. J. Woolley of the breeding places of the Crane in Lapland. He ascertained that the nests were made in large marshes composed of soft bog, where one generally sinks up to the knees or even up to the middle, and that they are composed of small twigs mixed with sedgy grass, a tolerably dry spot being usually selected. The eggs are two in number, and of a rich brown colour, with dark spots. Professor H. H. Giglioli, in his notes on the avifauna of Italy, ("Ibis," April, 1881), states that:—"It is not generally known that the Crane breeds in Italy, a few pairs do so every year in the extensive marshes along the Adriatic, north of Venice; I have received a chick in the down from that locality, presented by Count Ninni. The peasants there are in the habit of robbing the nests, and place the eggs to hatch under hens; they sell the young birds to be kept alive in gardens."

The Crane also breeds in Spain. Mr. Howard Saunders, in a foot-note to Mr. Abel Chapman's "Rough Notes on Spanish Ornithology," ("Ibis," 1884, p. 88), writing of the feral Camels in the Coto de Doñana, says:—"finding my statement as to the breeding of the Crane in that neighbourhood was received with much incredibility, I kept the apparition of the Camels to myself. I possessed the eggs of the Crane to convince the sceptics, but I could not have produced a Camel."

The young, which are clothed with tawny brown, are able to run about as soon as they are hatched. Mr. Woolley described the little things in chestnut coloured down, and so tame that as he handled one of them it began to pick playfully at his hands and legs, and when he rose to walk away from the nest followed him, taking him, as he supposed, for one of its long-legged parents, although he had only just been plucking some of the bits of down from it, and with the spirit of a true naturalist, he adds:—"valuable as I knew it to be in a natural history point of view, I could not make up my mind to take its life."

The young assume the grey plumage during the first year, but do not develop the elongated plumes from the back, which are so characteristic of the bird in full plumage.

The colouration of the Crane is very distinct. The general character of the plumage is ashy-grey, which is often discoloured with brown on the back, especially after the nesting season. It is suggested that this alteration is the result of the birds plastering their backs with earth when on the nest. The inner wing-feathers

GREAT BUSTARD ♂ ♀

are greatly elongated and loose, forming an ornamental plume which extends over the lower part of the back, and which can be raised at the will of the bird. The bill is greenish-brown; the face, head, and front of the neck, black. On the top of the head is a warty red skin, covered scantily with hair. The sides of the neck in the upper part are white, the legs blackish-grey.

Family—OTIDIDÆ.

THE GREAT BUSTARD.

Otis tarda, LINN.

THE Great Bustard, so-called to distinguish it from the smaller species, which also are found in Europe, namely:—the Little Bustard, *(O. tetrax)*; the Houbara Bustard, *(O. undulata)*; and Macqueen's Bustard, *(O. macqueenì)*, was formerly a constant resident not only in England and also in Ireland, but has long been extinct in the latter country. In England it used to breed frequently, but has gradually been exterminated, the last nest having been found early in the present century. It inhabited the broad open downs on the south of England as far north as the wolds of Yorkshire, and occasionally was found still further north. In the early part of this century it had nearly disappeared from Wiltshire, but nests were known in Norfolk and Suffolk as late as 1833, and an egg, now in the Museum at Scarborough, was reported to have been taken in Yorkshire in 1816. In former times it was exceedingly common in all the open parts of the country that were suited to its habits; the moors of Yorkshire, the heaths of Cambridgeshire, the downs of the southern counties, were all more or less frequented by it, the bird coming over to this country to breed. As late as 1819, a large flock was observed in Suffolk, and Stevenson says there is reason to believe that the last nest was observed in that county in 1832. In 1833, three

females resorted to Great Massingham Heath and deposited their eggs, which were taken away under the impression that as there was no male bird they would not be fertile. Later in the century occasional specimens, generally females, put in an appearance in this country from time to time. Mr. Dresser enumerates several, and writing of a specimen killed near Feltham, in Middlesex, on the 20th of January, 1871, he states:—"I had the satisfaction of examining it in the flesh when it was brought to the Zoological Society's rooms by Mr. Tegetmeier, who exhibited it at a meeting of that Society."

The bird does not appear ever to be common in the north of Europe, at all events it is now never met with in either Norway or Sweden. It is rare in Poland, and has but seldom been obtained in Denmark. Its chief breeding place is in the south of Europe, more especially in the Peninsula. Lord Lilford says that—"The Bustard is very abundant, and more or less resident, in the great plains of Central and Southern Spain, where it is not much esteemed as an article of food, and I hope likely to hold its own for many years to come.

No amount of legitimate and sportsmanlike pursuit can materially affect the 'breed' of Bustards in Spain; and, in my opinion, Bustard-driving is excellent sport, and the young birds very excellent food, whilst even the flesh of old males, who are of course the principal *desiderata* from the sportsman's point of view, can be rendered into most palatable soup—and Spain is a hungry country. Vast numbers of Bustards are said to exist in the southern provinces of Russia, in Europe, as well as in Hungary and European Turkey: in fact the bird is, or has been, tolerably common in all parts of Europe that are suitable to its habits."

Under all conditions the Great Bustard frequents wide open plains, and avoids all localities where there are trees and bushes which prevent it obtaining an uninterrupted view over the country. No bird existing is more shy and wary, and on foot it is almost impossible to approach it within gun-shot range, as it is never found in the woodlands or forests, and avoids mountainous or hilly districts. It is so watchful and wakeful that it is almost impossible to surprise the flocks even when they are asleep. Though a heavy bird it flies with much more ease than could be imagined, springing up at once into the air and taking flight at the least alarm. It is easily recognized when in flight by its appearance, its neck and legs being stretched out at full length.

The food of the adult Bustard consists in great part of vegetable substances, but Mr. Chapman writes of the charming spectacle that it is in summer time to watch a pack of Bustards about sun-set, all busy with their evening food among the grass-hoppers on a thistle-covered plain. He says they are working against time, before it is too dark for them to catch their lively prey. "With a quick

darting step they run too and fro, picking up one grasshopper after another with unerring aim, and so intent on their feeding that the best chance of the day is then offered to their pursuer, for their greed for the moment lessens their caution and their vigilance is relaxed"; but he adds that even under these circumstances a man on foot has no chance of coming near them. His approach is observed from afar, and after a moment of doubt, a couple of quick steps and a spring, and the strong wings of every bird flap in slowly rising motion.

Lord Lilford describes the birds as virtually omnivorous, hardly any green thing coming amiss to them, and besides vegetables of all sorts, and insects, they will eat frogs, lizards, snails, earth-worms, mice, and young birds.

The male bird has a singular pouch which, commencing under the tongue, runs down the front of the neck, thus when distended is capable of holding three or four quarts. It is not always to be found, and its presence or absence has been a subject of great discussion, some authors asserting and others denying its existence, but the latest examinations prove that such a pouch does exist, and the late Mr. Garrod, the Prosector to the Zoological Society, who had opportunities of dissecting specimens, sums up the evidence as follows:—"From the facts at present known regarding this subject, it may be concluded that a large sublingual air-pouch, which runs down the anterior portion of the neck, is present in the adult of *Otis tarda*, and some other species of Bustards, during the breeding season; that in young birds this pouch is not developed, and that during the non-breeding-time this pouch may, and perhaps always does, contract so considerably as to become insignificant."

The nesting of the Bustard is very simple, it is merely a hollow scraped in the ground. The eggs are yellowish-brown, and are nearly three inches in length. Incubation is said to last four weeks, in Spain usually commencing in the last week of April. Shortly after the males disappear, hiding in the vast stretches of corn, and awaiting their annual moult. This is a severe operation, as the flight feathers, both primary and secondary, are shed almost simultaneously, and the birds, incapable of flight, seek the closest seclusion, giving rise to the idea that they have migrated, when they are only hiding in the dense vegetation. There is no doubt, however, that the males, after the females are sitting, desert their mates and associate in unisexual packs.

Doubt is cast upon the old statement, which has frequently appeared in print, that the Bustard was formerly coursed with grey-hounds on Salisbury Plain and other similar localities. If this sport ever were practised it must have been during the short moulting season, when the birds were incapable of flight, but even at that time the bird possesses great speed of foot, and is not worthy of the

usual interpretation of the scientific name *Otis tarda*, which does not, as frequently imagined, mean tardy or slow, but is derived from the Celtic or Basque name of the species.

The plumage of the male Bustard is pale chestnut above, barred transversely with black; the tail feathers are tipped with white. The neck is rich chestnut; all the under parts of the body are white. The head and upper part of the neck are pale grey. The neck in front is covered with long tawny feathers, which become thick lower down and form a distinct band of rich chestnut. On either side of the chin of the male extends a tuft of bristly feathers seven inches long, giving a remarkable appearance to the adult bird. The length of the male is forty-five inches. The female is much smaller, being only thirty-six inches; she is destitute of the plumes from the chin, and does not possess the ruddy band across the lower part of the neck. The young, up to a month old, are covered with pale buff coloured down, barred upon the sides, wings, and back, with black.

Family—OTIDIDÆ.

THE LITTLE BUSTARD.

Otis tetrax, LINN.

UNLIKE the Great Bustard, which was formerly an habitual resident in England and Ireland, the Little Bustard has always been regarded as a rare and occasional visitor to this country, appearing only in its winter plumage. Its natural habitat being the southern portions of Europe, the adjacent parts of Africa and Asia, as far to the east as India. In its general habits, mode of nesting and feeding, it closely resembles the Great Bustard; although in winter the birds congregate in large flocks, and are very difficult to approach or obtain, except by driving, which is very uncertain as, when approached, they rise at once into

LITTLE BUSTARD ♂⅓ ♀

the air with a power of flight that is remarkable, when their size and weight is considered. Col. Irby, in his admirably written and beautifully illustrated work on "The Ornithology of the Straits of Gibraltar," says:—

"They were often to be seen flying somewhat like Golden Plover, twirling and twisting about at a great elevation; and sometimes I watched them rise and go to such a height that it would have been difficult to tell what birds they were unless I had seen them fly up from the ground." The same writer says that the male, during the breeding season, has a most peculiar call, which can be imitated by pouting out the lips, pressing them tightly together and blowing through them. The birds thus calling seem to be close to you, when they are often in reality half a mile off. Lord Lilford says that this exactly accords with his experience, and he adds that this noise is produced during the breeding season, when the male is frequently seen springing two or three feet from the ground, with dilated throat and extended wings, going through the sort of "show" which is common to the birds of the order.

The flight of the Little Bustard is rapid and easy, the wings producing a loud whistling, which is the origin of the Spanish name "Sison." The nests are formed of dry grass stems in the growing corn or thick covert of high grass. In captivity, Lord Lilford describes the bird as becoming very tame, although susceptible of damp in cold weather. Colonel Irby says that they nest in the beginning of May, laying three shiny, smooth, olive-green eggs, more or less blotched with dark brown. The colour of the male during the breeding season may be described as sandy-brown, vermiculated with black; the throat and cheeks being bluish-black, with two white marks across. The under surface of the body and wings is entirely white. In winter the feathers of the neck and breast are sandy-brown, streaked with black, as in the female. The length of the bird is about seventeen inches. The habits of the bird in the Dobrudscha are very similar to those that have been observed in Spain, and the mode of obtaining it in this region is admirably given by Mr. Simpson, in an early number of the "Ibis," (1861).

"The Little Bustards arrive from the south, rather before the middle of April, in flocks of considerable size, many staying to breed here, whilst others are moving further north. The male birds are particularly demonstrative at this time of the year, and being often occupied in parading their attractions, in groups of ten or a dozen, to the females, which are crouching somewhere in the grass; they are not so wide awake as at other seasons, and thus afford a better chance to the gun. On foot, even with a rifle, it is not easy to reach them; but with an araba, judiciously managed, very fair sport may be had. After a few months' experience

of the stony mountains and dense coverts of Greece, nothing can be more exhilarating than a gallop in an araba over the breezy downs of the Dobrudscha in early spring. It is true that at starting you expect concussion of the brain must necessarily ensue, as there are no roads, and your driver dashes over all minor inequalities of the surface; but this feeling soon goes away, and you get on famously until a wheel comes off. * * * * * *. Presently some Bustards are descried on the opposite slopes, and away we gallop towards them. It may so happen that they take the alarm and fly before we are within a quarter of a mile. The Great Bustard almost invariably does; but the Little Bustard, besides being more plentiful, is less wary, and often takes no notice of the araba. Arrived within two hundred yards, we commence 'great circle sailing,' gradually shortening the distance though, to the flock, we seem ever going away from them. The pace is now a good trot, and the great thing is to pull up dead when about forty yards off, firing the instant the birds rise, which they are pretty sure to do as soon as the machine stops. We found by experience that forty yards was about as close 'shaving' as the birds would stand; and at that distance it was not always a kill, especially if the horses were not perfectly quiet. If a bird was hit, but not brought down, we galloped after him at full speed, when, finding he could not get away from us, he would often crouch, and under these circumstances it was very difficult to find him. We used to get down from the araba and almost walk over them before they would get up. They are slow risers generally, but when once fairly on the wing, go at a slashing pace. On getting up, the Little Bustard makes an odd rattling noise, very similar to that produced by a bird-scarer, such as is used in gardens. In this description of sport only one person can shoot at a time; but, in fact, there is as much fun to be had, and more skill to be displayed, in managing the horses so as to place the araba in a favourable position, than in shooting the game. Our best bag in one day was seven brace, of which number eleven birds were males in splendid plumage. The flesh is dark, and at this season rather strong, but in a hungry country like the Dobrudscha, one is not apt to be particular."

In remarkable contrast to this verdict on the value of the bird as food, is that of Col. Irby, who writes:—"In my opinion there is no better food than the Little Bustard, they are equal to Indian Florican in this respect, which is saying a great deal for them"; and Lord Lilford says that "the flesh of this species is generally much esteemed, and is indeed remarkably good. In Spain it is often served up in the hotels under the name of Faisan, *i.e.*, Pheasant." These different verdicts probably depend upon the season of the year when the flesh of the bird was utilised.

ORDER LIMICOLÆ.

IT is very undesirable to repel the would-be student, or tangle his faculties, with the dry bones of the innumerable systems under which birds have been classified. It will be sufficient for me to mention that the *Limicolæ* form a tolerably well-defined group, with a relationship on the Stone-Curlew side to the Bustards, through the Plovers to the Jacamars, and more distantly to the Pigeons and Sand-Grouse.

Amongst their characteristics may be mentioned that their eggs are very large in proportion to the size of the parent; incubation lasts a comparatively long time, *i.e.*, about three weeks. From these two peculiarities it follows that the young, which are born covered with thick down, are hatched with their eyes open, and can run about within a very few hours of leaving the shell. Moreover, they are born with a portion of the egg-yolk unused, and enclosed in the body cavity, so that they only need to supplement this reserve of nourishment as they learn to feed. The *Limicolæ* have large eyes, which stamps them as chiefly nocturnal feeders.

Their principal anatomical peculiarities may be briefly mentioned; they fall into Huxley's class *Schizognathæ*, (Split-palate), which means that the palatine bone of the roof of the mouth, and its maxillo-palatine process, are not united to the vomer, as they are in the birds of prey and many other orders. Secondly, the *Septum nasi*, or bony partition between the right and left nasal cavity, is incomplete, so that there is communication between the two. Thirdly, two extreme types of bill are found in the *Limicolæ;* there is the hard insensible bill, a capable weapon, like the Oyster-Catcher's; and there is the soft, flexible, sensitive bill, as in the Snipe and other probers. Lastly, the spinal feather tract is forked on the shoulders, (except in *Œdicnemus*), and shews a gap in the middle of the back. For a fuller explanation of these it is recommended

that Mivart's "Elements of Ornithology," and Newton's "Dictionary of Birds," should be consulted; for the last, Nitsch's "Pterylography." (Ray Society, ed. Sclater).

The *Limicolæ*, also called the Grallatores, or Waders, are chiefly frequenters of water, salt or fresh, and partial to marshes; they can be well studied on the coasts at migration season. They nest on the ground, with few exceptions, and lay four eggs, generally pyriform, and placed in the nest with the smaller ends inwards. Exceptions to this number of eggs are, the Stone-Curlew and Courser, which lay two only; the Dotterel, Pratincole, and frequently the Woodcock, three.

The nest is usually inartistic, being a small hollow in the ground, produced presumably by the action of the beak or feet in the first place, but completed by the bird revolving in the hollow, and shaping and smoothing the hole with its breast; a common result of this is, a few loose feathers from the breast remaining as lining. Sometimes feathers of other birds are intentionally introduced as lining material, (the Purple Sandpiper usually collects a few cast Ptarmigan feathers for this purpose), but the usual lining is grass, fine twigs, or roots; sometimes, as in the Ringed-Plovers, small rounded gravel is used. But in most cases it appears that the lining of the nest, scrappy as it is, is chiefly added during incubation, and there is little or none when the first egg is laid.

Incubation, (for which see a very good paper in the "Ibis," by W. Evans, 1891, pp. 52-93), lasts from twenty days, (Woodcock and Snipe), to twenty-nine, (Curlew). The male birds do most of the sitting, as in the Order *Ratitæ*, (Emeus, Cassowaries, Ostriches). Professor Newton thinks that this is only the case in those species in which the female is larger and more brightly coloured than the male, *e.g.*, the Painted Snipes and Phalaropes. I have found it to be the rule with most *Limicolæ* which I have had the opportunity of observing. Incubation does not commence till after the last egg is laid, as it is desirable that all the young birds, being able to run at once, should be hatched simultaneously. Probably only one brood in the season is the rule, but evidence of this is hard to come by. The first birds to reappear on our coasts in autumn are old birds in faded breeding dress, whose nests and eggs, or perhaps mates, have presumably come to a bad end; next come the young birds, and finally the bulk of the old ones.

The song is generally inartistic also, but often very pleasing. Temminck's Stint has a pretty little warble in the breeding season.

Many individuals clearly do not breed in their first year,—*i.e.*, not until they are two years old,—and are found on the sea coasts some distance to the south of their true breeding range. This will explain the summer stragglers, like the Whimbrels on the Norfolk coast in summer.

I may just mention that the descriptions of the *Limicolæ* have perforce to be much more full and minute than those of other families of birds, owing to the fact that some species have as many as four separate dresses, depending on age, sex, or season; this must be my apology for making my part of this work, I fear, somewhat dry; but any description which did not allude to the alternative plumages, would certainly fail largely in enabling those, who are dependent on descriptions, to recognize the birds with anything like certainty. I may add that nearly all the descriptions, and the birds figured in the plates, are taken from carefully chosen specimens in my own collection; for the American species I am indebted to my friend, Mr. Dresser, for the loan of skins.

H. H. SLATER.

FAMILY ŒDICNEMIDÆ.

A SMALL group of birds, burly in build, frequenting Steppes and open country inland, and entirely nocturnal in habits, as may be guessed from the large size of the eye. The legs are reticulated, *i.e.*, covered with hexagonal scales both in front and behind, most birds, (and most of the *Limicolæ*), having the front of the tarsus protected with broad transverse scales (scutellated); only three toes, the hind one being absent. The spinal feather tract on the back is not forked, as in the other *Limicolæ*. Tail feathers much graduated, the central much longer than the lateral ones. Nest none, only the merest hollow in the gravel.

Family—ŒDICNEMIDÆ.

STONE-CURLEW.

Œdicnemus scolopax, S. G. GMELIN.

THE Stone-Curlew, often called the "Norfolk Plover," from its abundance in that county, gains its generic name *Œdicnemus*, and its vernacular name "Thick-knee," from a peculiarity of the young birds, which have swollen joints to their legs until adolescence, a state of things which doctors would call "oedematous."

In Great Britain, in the breeding season, the range of this bird is practically confined to the Chalk Wolds: that is to say, it breeds on open downs in Dorsetshire, Wiltshire, Hampshire, Berkshire, Oxfordshire, Bucks., Bedfordshire, Herts., Cambridgeshire, Norfolk and Suffolk, (these two its head-quarters), Rutland, Notts., and Lincolnshire, to find its northern limit in E. Yorkshire. In the above-mentioned it is a summer visitor, arriving in April and leaving in October, but a few remain in open winters. In the extreme S.W. of England, it seems to be a winter visitor only. Elsewhere it is a rare straggler, has only once occurred north of the Tweed, and very seldom in Ireland. Abroad, it is resident in the Mediterranean area; north of that, in Europe, a summer visitor, not going northward of the Baltic; a resident in S. Russia (up to about 50° lat.), Palestine (Tristram), Asia Minor (Krüper), and Persia (Blanford and St. John). It breeds in Turkestan; in India and Ceylon it is found all the year round. In Africa it is not found further from the Mediterranean than Upper Egypt and Nubia (Shelley), and the Canaries to the west. Three other Stone-Curlews inhabit Southern Africa. There are also three American and three Oriental species, if *Esacus* be included with *Œdicnemus*.

Colour of adult: bill greenish-yellow, with a long black tip; iris yellow; crown, back, and upper parts generally of a warm drab, all the feathers with a dark brown shaft-stripe, which is most conspicuous on the crown and wing-coverts; primary coverts with light buff tips, forming a bar across the extended wing; from the base of the upper mandible a dirty white stripe passes below the eye to the ear-coverts, above this a sooty black stripe through the eye, and below it a brownish streak from the base of the lower mandible, covering the greater part of

STONE-CURLEW ♂♀

the ear-coverts; primary (longest) quills almost black, the second a shade the longest, with a large white patch on the first two; white tips to a few of the secondary quills; central tail-feathers of the same colour as the back, mottled with umber, and much the longest; lateral ones decreasing rapidly in length, with increasingly white bases, several dark bars above the centre, followed by a broad white and an equally broad black tip; under parts dirty white, browner on the breast, which has dark brown shaft-stripes; a few narrow stripes on the flanks; under tail-coverts rusty; legs and feet yellow, claws black. Length 14-17 inches, wing (closed) $8\frac{3}{4}$-$9\frac{3}{4}$. The sexes do not differ, but younger birds are less boldly marked, and have the tail feathers more barred.

Nestling, above sandy-grey, delicately mottled with pale brown; under parts buffy-white; on each side of the head, and down the crown, a black stripe, a similar one down the back bone and on each side of the body; legs blue-grey.

The adult described is a Cambridgeshire skin in my own collection; for the description of the nestling I am indebted to Dresser, ("Birds of Europe," vii, 402).

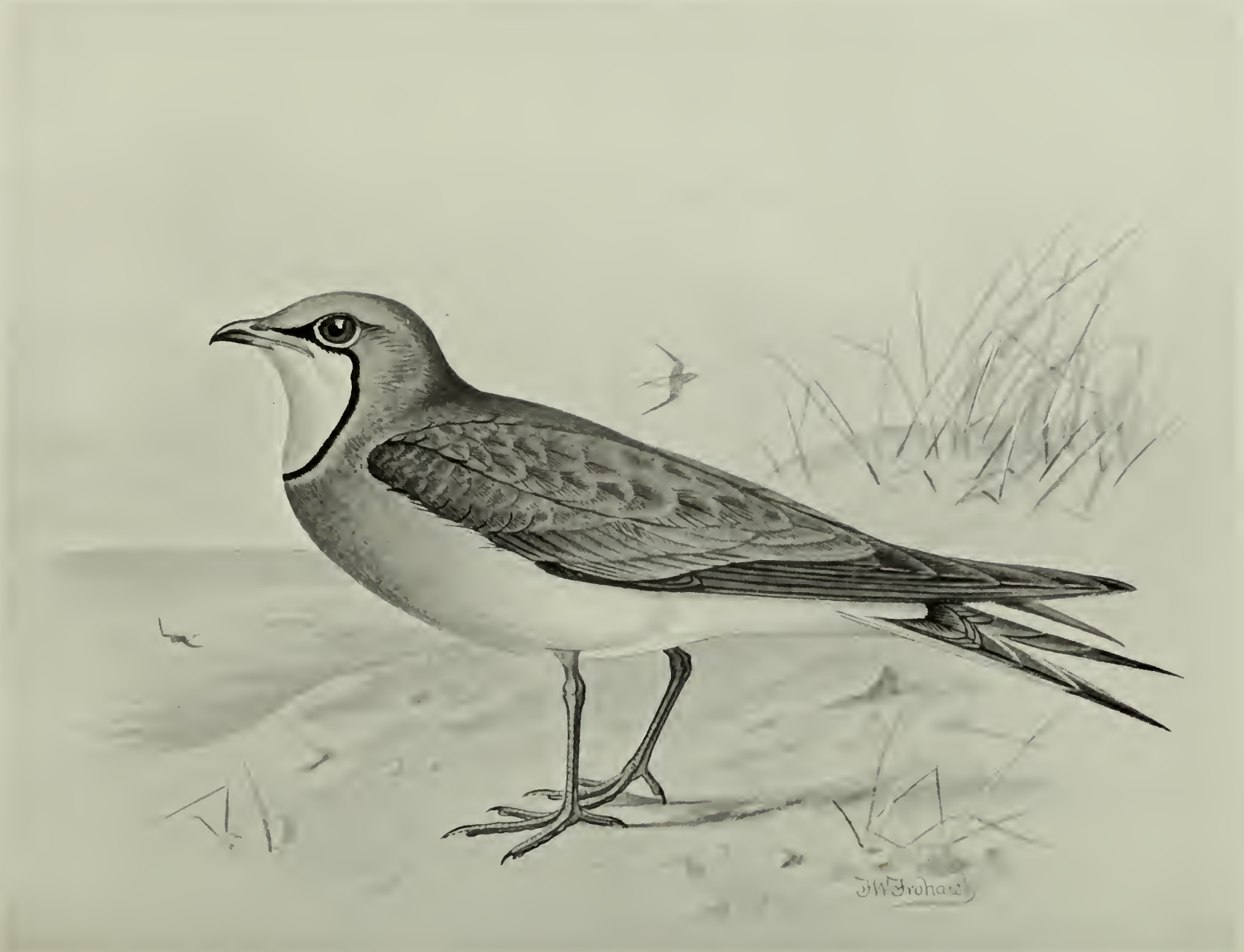
The nest is a mere depression in the ground, on some sandy or stony upland, in which are laid two eggs, rarely three. Occasionally this bird continues to breed on a favourite ancestral spot after it has been planted with trees—even after the trees have grown up, (see Newton, in Stevenson's "Birds of Norfolk," where, however, it is not stated whether the nest was on a bare spot in the middle of the "flourishing wood," where the trees had "missed fire," or not). The eggs are pale clay colour, spotted and streaked with blue-grey and dark brown; length, 2-2⅛ inches by about $1\frac{1}{2}$; usually they are not of the typical *Limicoline* shape, with a very large big end and narrow pointed small end, but often have the largest diameter nearly, or even quite, in the centre. This same peculiarity may be observed in the other *Limicolines* which lay less than the typical four eggs. The male bird was ascertained by Mr. Salmon to do all the incubating during the day; when the female takes a turn has not yet been discovered. The bird sneaks off the eggs in a crouching position, the moment any one comes within sight of the nest. Two broods are believed to be reared in a season, and eggs have been found in England as early as the middle of April and as late as September. The eggs and young are very difficult to find.

The Stone-Curlew is rarely seen away from open unenclosed country. Silent and quiet by day, at night it is active and noisy, especially on moonlight nights, travelling long distances, if necessary, to obtain its nightly drink of water. Its food consists chiefly of insects—beetles, grubs, and earwigs—also slugs, snails, and worms. It has been known to eat field-mice and lizards, and Mr. Newcome ascer-

tained from Norfolk warreners that, when caught in a rabbit-trap, it occasionally ejects a frog. Its note is a loud whistle, with a tremolo like a French vocalist's. Charles Kingsley, (in "Yeast"), compares the cry of the Stone Plover, as it is sometimes called, to a weird laugh, and locates the bird, with his usual accuracy, in Berkshire in the autumn, and Cornwall in winter. Never seen but in pairs, or families, during the breeding season, in autumn it packs "in lots of from five to fifty," (Irby, Orn: Str: Gibr: Ed: ii, 262), and frequents "ploughed fields, and the banks of rivers." Hewitson represents it as breeding on sand-hills by the sea, which is misleading. It breeds on "sandy flats," and often not far from the sea, but not on coast sand-hills. In the autumn in our country, it frequents turnip-fields, where it lies concealed through the day, and is sometimes surprised by sportsmen. But it is a difficult bird to bring to bag, except by a regularly organized drive.

FAMILY GLAREOLIDÆ.

AN aberrant group of *Limicolæ*, separated from the rest of the Order by their short curved bills, long pointed wings, and especially their forked tails, by which they may be identified at a glance. They, with *Cursorius*, show an affinity to the Bustards in that their nostrils are not situated in a long furrow; the premaxilla, or bony framework of the upper half of the beak, is divided in birds to admit of an opening for the nostrils. If this opening is short and circular, as is usual in short-billed birds, it is called a "nasal *fossa*," or pit; in long-billed birds, (including all the *Limicolæ*, with the exception of the two genera above-mentioned), it takes the form of a long narrow "*sulcus*" or furrow. *Cursorius* then, and *Pratincola*, differ from the rest of the *Limicolæ* in having a short *fossa narium* instead of an elongated *sulcus*. The *sternum*, or breast bone, also resembles that of the Bustards (and Plovers) with *two* posterior notches. Eggs two, rarely three. Legs slender, bare of feathers for a short distance above the "knee," (which really corresponds to the human ankle); hind toe short and weak. The genus is confined to the old world. Our species has its head-quarters in Southern Europe and



PRATINCOLE ♂ ¾

North Africa. There is another in S. Russia and Turkestan, *(G. melanoptera)*, with black axillaries; another in Eastern Asia, *(G. orientalis)*, whose range meets that of the European bird. Five more are found in Africa and one in Australia.

Family—GLAREOLIDÆ.

COMMON PRATINCOLE.

Glareola pratincola, LINN.

AN eccentric family of *Limicolæ* are the Pratincoles. Placed by Linnæus amongst the Swallows, on account of an external similarity of flight and shape, Sundevall, (no mean authority), affiliated them as late as 1873 to the Nightjars! But structurally they are true *Limicolines*, with a near relationship to the Coursers.

Twenty-six satisfactory instances are on record of the Common Pratincole's occurrence in Great Britain, ranging between Cornwall and Unst; but the greater number of these have been met with on the east and south coasts of England, as might be expected. It occurs as a rare straggler, also, in Denmark, Germany, Belgium, and Northern France. In the South of France it breeds, and throughout the Mediterranean basin, being most abundant in Southern Spain, where it nests in numbers in the marshes of the Guadalquivir and other rivers. South of the Mediterranean it is abundant and resident; it ranges as far south as Somali-land, and has even straggled to Natal, but does not appear to have occurred in the Azores. In Asia it certainly ranges as far as India, but from S. Russia is replaced eastwards by *G. melanoptera*, as has been mentioned, (which appears to be the commoner visitor to S. Africa). The smaller *G. orientalis*, with a less forked tail and no white tips to the secondaries, represents it in Eastern Asia.

Colour of adult: bill, short and curved, black, the base of lower and edge of upper mandible vermilion; iris brown; crown and upper parts olive brown, on the wing-coverts a slight greenish gloss; wing quills sooty black, the first, which is noticeably longest, with a dull white shaft; upper tail-coverts white; tail black-brown, deeply forked, (the external feathers, which have the largest white bases, from 2 to $2\frac{1}{4}$ inches longer than the central ones); throat cinnamon, margined with a black hoop from the base of the upper mandible; breast and flanks like the back, belly and under tail-coverts white; axillaries (arm-pit) and central under wing-coverts rich chestnut; legs dark brown. Length 9-$10\frac{1}{2}$ inches, wing (closed) $7\frac{1}{2}$. Female like the males. The above from adult Egyptian skins in my collection.

Young birds have the feathers of the upper parts margined with sooty-black and tipped with fawn colour; tail much less forked and with tawny-white feather tips; the black semi-circle round the throat only faintly indicated, and the lower parts indistinctly streaked with dusky grey-brown.

Nestling warm buff above, mottled with dusky brown; a dark line from beak down the back-bone; under parts whitish, (Lilford).

The Pratincole makes no nest whatever, but lays its eggs in slight accidental hollows on dried mud—or sand-banks—such as the print of a horse's hoof. Eggs two, or three, (in Spain "three is their complement," Chapman). Seebohm once found four in a nest, but there was nothing to show that this was not a joint-stock affair. The eggs are not disposed in the nest with small ends inwards, as the custom is amongst the *Limicolæ*, but side by side: they are very thin-shelled, a regular oval in shape, varying in ground tint from yellow ochre to pale grey, boldly blotched and streaked with pale grey-brown and dark sepia. Length $1\frac{3}{16}$-$1\frac{5}{16}$ inches by $\frac{7}{8}$-$1\frac{1}{2}$ inches. The birds are very anxious when their eggs are approached, and swoop at the invader's head with shrill screams, in the manner of the Arctic Tern, besides trying all manner of artifices to lure him (the invader) away. I am unable to state which sex takes the greater share of the incubation, probably a good deal is left to the sun in bright weather.

The Pratincole is a bird of swift and agile flight, resembling in this the Swallows, Swifts, and Terns, and thereby showing that a similar mode of life induces superficial resemblances in figure. But the Pratincole also runs on the ground with the agility of a Ringed-Plover. Its food chiefly consists of beetles, and, failing these, of flies and other insects, which it captures principally on the wing, hawking them till dark falls, but not later, in company with Bats, Terns, Swifts, and Swallows. It appears in its European breeding quarters early in April, laying its eggs about mid-May, retiring southwards in September. Its

ordinary note is harsh, and resembles a croak, but, as has already been mentioned, it screams shrilly when its eggs are in danger. It has a curious habit, mentioned by many observers, of throwing itself flat on the ground in front of an intruder, suddenly springing up again and flying off. This looks like a wile to draw attention from its nest or young, but it is practised also at times of year when there can be a question of neither.

FAMILY CHARADRIIDÆ.

CONTAINS the Plovers and their nearest allies. They have generally three toes only on each foot (*Squatarola*, *Vanellus*, *and Strepsilas* only having a hind toe, which is too small and too elevated to be of use, or to leave a mark on soft ground). The bill is usually shorter than the head (excepting in *Strepsilas*, in which it is equal in length to the head, and *Hæmatopus*), fairly stout, used for picking and not for probing wet ground, and without the hexagonal nerve-pits at the tip, which are to be seen in the bills of many *Scolopacidæ*. Nasal furrow (the groove in which the nostrils are situated) generally not more than half the length of the bill.

The family contains the following types:—

1.—THE RINGED-PLOVERS. (*Ægialitis*). Sturdy, usually rather short-legged birds, affecting the shores of the sea, or of shingly rivers; tarsi reticulated, *i.e.*, covered with hexagonal scales, both before and behind. Three toes slightly webbed.

2.—THE TRUE PLOVERS. (*Charadrius and Squatarola*). Slender, larger, putting on black breasts and throats in summer; tarsi reticulated. Three toes, (except in *Squatarola*), slightly webbed.

3.—THE LAPWING. (*Vanellus*). Slender, very blunt-winged; tarsi scutellated (covered with transverse scales), in front, reticulated behind. Toes four, the three front ones slightly webbed at their bases. Back of head furnished with a crest.

4.—THE OYSTER-CATCHER. (*Hæmatopus*). Sturdy; bill longer than the head, square-ended, laterally flattened; tarsi reticulated. Toes three, moderately webbed.

Family—CHARADRIIDÆ.

CREAM-COLOURED COURSER.

Cursorius gallicus, GMEL.

THIS bird gains its second Latin name from having been first described from a stray specimen obtained in France; and, like the name Kentish Plover (conferred for a similar reason), and many other such names, conveys a very erroneous impression of its habitat. It is found in sandy deserts, from the Canaries to Sindh. North of the Mediterranean it is a rare straggler only, but in the Canaries it breeds in some numbers, also across Africa, north of Abyssinia (Rüppell). In Palestine it is scarce, but occurs in Persia, Arabia, Beluchistan, Sindh, the Panjab, and Rajputana. I used the expression "in some numbers" above, but do not wish to convey a misleading idea; this bird is nowhere found in large numbers together. In the extreme east and west of its range, *i.e.*, in Sindh and the Canaries, it is probably most plentiful. About a dozen and a half have been obtained in Great Britain (one only in Scotland), mostly in October and November. One in Holland, three or four in Germany, about ten in France, a few in Spain, and more in Italy, are on record. It has not been known to breed north of the Mediterranean.

Colour of adult: bill almost black, $\frac{9}{10}$ inch long, slender, decurved at the point; iris hazel; general colour ochreous buff, all the feathers with black bases, or black down at the base; nape clear grey; two white streaks over the eyes, meeting behind at the nape, bordered below, and less distinctly above, with black; wing quills very dark brown, with indistinct rufous margins; the secondary quills approaching the colour of the back, with a black subterminal bar to each, and a white tip; tail warm buff, the two centre feathers plain, the next, on each side, with a black bar at the end, terminated by a buffish-white tip; the white increases in area on each pair outward. Legs and feet light pinkish-grey. Length $9\frac{1}{2}$-$10\frac{1}{4}$ inches, wing (closed) 6 inches, or a trifle more. Sexes exactly alike. From an adult female in my collection from Fuerteventura, Canaries.

Young are ruddier than adults, with grey on the nape, but no white or black; the upper parts have the feathers tipped with grey-brown crescents, and the throat and breast are spotted with the same colour. Saunders ("Yarrell," 1884, vol. iii,

CREAM COLOURED COURSER ♀

p. 245) states that the fully adult dress is not assumed till the end of the second year.

Nestling (Fuerteventura, 24, 3, 1888, taken by Mr. Meade-Waldo, who kindly lent me the skin to describe), is sandy, whiter on the throat and chin, and mottled above with two shades of brown. The bill and feet look as if they had been yellowish-brown when fresh.

"There is really no nest, the bigger stones being just moved away to make room for the bird to sit on the two eggs" (Meade-Waldo, "Ibis," 1889, p. 505). The eggs are usually two in number, and are laid, as in the Pratincoles and Terns, side by side. Their ground colour is pale stone-buff, *without any gloss*, minutely freckled and scribbled with pale blue-grey and umber-brown, some being much more thickly marked than others. (I have taken this description from two sets in my own collection from Fuerteventura). At a short distance they look extremely like water-worn pebbles, and we can readily believe the statement of those who have found them, that they are particularly difficult to discover. It is noteworthy, in view of the number of eggs which constitutes a full laying in a state of nature, that a female Courser, kept in captivity by Favier, in Algeria, laid, one year, eight unfertile eggs, and twelve the next year! At the nest the female alone is in attendance upon the eggs, and does not assist the would-be discoverer either by flying from the nest, or by exhibiting any anxiety. When the young are hatched, however, both parents are in attendance. It has been mentioned that the fully adult plumage is not put on until the second autumn; young males, however, not unfrequently breed before then in immature dress. Dr. Tristram took the first undoubted eggs of this bird on the fringe of the Algerian Sahara ("Ibis," 1859, p. 79). In the Canaries the eggs are laid by the end of March, but in India the time appears to vary from March to August, depending upon the time of the rainy season. The eggs measure about $1\frac{3}{8}$ by $1\frac{1}{10}$ inch, but vary a good deal in size.

The Courser is not a bird of extensive and regular migrations. In our country, as mentioned above, they usually appear at the beginning of winter. In Malta chiefly in March, April, and May (Wright). In the Algerian Sahara they are less abundant in winter than in summer (Tristram); and other observers in Algeria and Morocco have had much the same experience. In Egypt they appear to be resident (Shelley); also in India (Hume, "Stray Feathers," i, 228), though Adam, writing of the Sambhur Lake, states that it (the Courser) leaves in the hot weather to breed elsewhere. If the reader can deduce a law of migration that will ease his mind from the above facts, and any others he may come across, he is at perfect liberty to do so. Probably the only definite law about the whole

matter is this, that when suitable food becomes scarce in any locality the Coursers go elsewhere—like the Mantchurian (Pallas') Sand-Grouse. The best field-notes on the habits of the Courser are those of Favier (see Irby, "Orn. Straits Gibr." in loc:); Hume ("Stray Feathers," l.c.); and Meade-Waldo ("Ibis," 1889, 505, l.c.) The first represents the note of the female at pairing time, by the formula *rererer;* the last, the note at the nest as a low *qua-qua*. But the bird is a very silent one, found, out of the breeding season, in small parties of perhaps one family only, on dry sandy or stony plains, feeding on grasshoppers, plant-bugs, beetles, grubs, flies, snails, and in confinement (Meade-Waldo) on pieces of lizard. They would probably take kindly, in this country, to the meal-worm, and the familiar domestic cockroach. When feeding at large "they run rapidly for a few yards and then stop, standing for a second or two very erect; again they dart off in another direction, pick up an insect, and again stand still watching for the next victim. They are easily approached if you walk round them, as recommended for Florican" (Hume, "Stray Feathers," 1876, p. 11). "Sleep and rest in a sitting position, with their legs doubled up under them" (Favier, l.c.). "In flocks they were very wild, and reminded me generally of Lapwings" (Meade-Waldo, l.c.).

Family—CHARADRIIDÆ.

DOTTEREL.

Eudromias morinellus, LINN.

THE name "Dotterel" (related apparently to "dote" and "dotard"), seems to have been applied to this bird owing to its foolishly tame habits at certain seasons; the specific Latin name also is probably a diminutive of the Greek word for a fool.

DOTTEREL ♀ ♂

Its breeding range extends from the Atlantic to the Pacific, and it selects for nesting purposes barren, stony hill-tops, in Norway, Sweden, Northern Russia, and Siberia; and, in smaller numbers, in Great Britain, Transylvania, Styria, and Southern Germany. In Britain it is a vanishing species, a circumstance much to be regretted. It is one of the species which the "Wild Birds Preservation Act" ought to protect, but that ill-considered, though amiable and well-intentioned, measure is all but a dead letter. In Great Britain the Dotterel used to breed on the stony summits of hills in Derbyshire, Cumberland, Northumberland, Galloway, Dumfriesshire, Perthshire, Inverness, Ross, Aberdeen, Forfar, Kincardine, Banff shires, and in Sutherland, but in several of these it is no longer found. Its decrease is apparently due to its fearlessness, its edible qualities, and especially, perhaps, to the fact that its feathers were used for a very killing trout fly. In the north of England, when I was a boy, and sportsmen were not turned out by the gross, shop-made, fishermen used to make their own flies, largely, and a Dotterel's skin was to be found in most fly-fishermen's store. The axillaries of the Starling were, however, practically as good as the feathers from the Dotterel's back.

The Dotterel is found on migration, in spring and autumn, near the coasts, especially on the east side of Britain—less commonly inland—in small parties (or "trips") of from five individuals to a dozen or more. They frequent wolds and heaths, feeding a good deal on ploughed land. They make their appearance in this country, on the northward journey, about the last week in April, moving southwards again at the end of August and beginning of September.

Colour of adult: beak black; iris dark hazel; crown sooty, becoming blue-black on the nape; broad white eye-brows, meeting at the nape; ear-coverts sooty; rest of upper parts drab, with pale sandy margins to most of the feathers, turning to rufous on the wings; tail feathers ginger-drab, the ends sooty with white tips; chin and throat white, minutely spotted and streaked with dark grey; breast grey-brown; a white band across the centre of the breast, margined above and less distinctly below, with black; lower breast and belly rich tawny, with a large black central patch; legs and feet dusky green, claws black. Length $9\frac{1}{4}$-$9\frac{1}{2}$ inches, closed wing 6-$6\frac{1}{4}$, first quill longest; bill $\frac{5}{8}$ inch. In all but very old birds, the feathers of the forehead have sandy-white margins, producing a speckled effect.

Young birds have the crown, back, and shoulders, black, each feather broadly edged with buff: under parts plain buff.

The females are a shade larger than the males, and sometimes, but not always, more brightly coloured. The above descriptions from birds in my own collection, procured in Northern Europe.

The nest is usually situated amongst the short wiry grass on mountain tops, often near a stone or hummock; rarely are two nests within a mile of each other. The nest is a mere hollow, smoothed by the birds' breast; there is no extraneous lining, merely the scraps of grass and lichen that result from the bird revolving in the hollow to shape and smooth it. Eggs three in number, tawny olive in colour, richly and boldly spotted and blotched with black; average length 1½ inch, or a shade over, breadth 1$\frac{1}{10}$ inch.

As well as being almost absurdly tame, this is a very silent bird. I have only heard it utter a low unmusical chirp, and this very rarely. Its food consists of insects, chiefly beetles and larvæ; occasionally a leaf or two are found in the stomach; at other times small land shells are reported to form their food. As far as my experience goes, which is not very extensive, the male incubates the eggs; this has been the case in both the instances in which I have dissected birds shot off their eggs, (N.B.—not in Britain). No doubt, in the inclement regions where the Dotterel nests, the female will have to relieve the male when he wants to feed. But amongst the *Limicolæ* the males are pattern fathers, and take upon themselves much the larger share of domestic duties.

The winter quarters of the Dotterel are North Africa, Egypt, Palestine, and Persia. Eastward it gets much rarer on migration. It has occurred as a rare straggler in Japan, but Swinhoe and Père David never met with it on the China coasts, nor have the keen collectors there of the present day. Oates does not mention it as a visitor to Burmah, nor Jerdon to India, so that we are justified in supposing it to be extremely rare in its far eastern range; and the only modern record, of which I am aware, of its breeding eastwards of mid-Siberia, is that of Nordenskjöld, in Bering's Straits. In Palestine and North Africa it is very abundant in winter, met with "in vast flocks," (Tristram). This author speaks of the abundance of small snails in the Dotterel's winter quarters, in Palestine, forming an abundant provender for the bird ("Ibis," 1868, p. 323); also of the great number of Dotterels met with in the Sahara in winter, wherever grass was found for their insect food (beetles) to live on ("Ibis," 1860, p. 78). In spite of this apparent plenty in their winter quarters, where, apparently, they are not much persecuted, in most countries Dotterel are reported to be decreasing in numbers —notably in our own. In some localities I know, where they used to appear regularly in considerable numbers in autumn, within the last twenty years, they are now only intermittently seen, and then in units, where they used to be tens.

Two were seen on a ploughed field and shot, not long ago, by a party of autumn sportsmen, not many miles from my present home. One was ultimately

COMMON RINGED-PLOVER ♀ ♂ ⅞

rescued for the late Lord Lilford's collection of Northamptonshire birds. The other was cooked and eaten—as a "Short-billed Woodcock"!

Family—CHARADRIIDÆ.

COMMON RINGED-PLOVER.

Ægialitis hiaticula, LINN.

THE Ringed or Ring-Plover is sometimes called the Ringed-"Dotterel," which name should be reserved for *Eudromias morinellus;* also the "Sand Lark," a name no less to be deprecated, as it conveys a false impression of relationship; also the "Stone-hatch," for reasons which will appear. Many of the English vernacular names, founded on chance external resemblances—such as "Night-Hawk," "Sea-Swallow," "Hedge-Sparrow,"—are productive of great confusion in the minds of beginners at our science, and it would be well if they (the names) could be treated as superfluous kittens and puppies are.

Two races of the Ringed-Plover occur in our country; one, a larger, burlier form (called by Seebohm *Æg. hiaticula major*), is the usual one with us; the other, smaller form, which may possibly breed in S.E. England, is, as well as being smaller and slenderer, rather darker in the tint of the upper parts. But while the existence of these two varieties is worth bearing in mind, because it may help us somewhat in throwing light upon the migration question, the trifling differences do not warrant their separation even as subspecies. The larger form breeds in Greenland, Spitsbergen, Iceland, Novaya Zemlya, and in Europe generally north of the Alps, including Britain, and as far east as the Taimyr Peninsula and Lake Baikal, including Palestine (Tristram); the smaller race overlaps the other, and breeds down to North Africa and the Canaries, and eastward to Turkestan. In winter the Ringed-Plover is found on all the South

European shores, and the coast-line of Africa down to Natal. On the American Continent a species is found which bears a close general resemblance to our bird; it is web-footed, however, to a much greater extent than ours (the web extending to the second joint between the middle and outer toes), and so is called *Ægialitis semipalmatus*.

The Ringed-Plover breeds all round our coasts in suitable localities, and not uncommonly on barren sandy hills in Norfolk, some distance inland.

Colour of adult male: bill orange, tip black; iris umber; front of forehead, a patch behind the eyes, chin, throat, neck, and under parts generally, white; lores (space between beak and eye), sides of face, ear-coverts, upper forehead, black; a black band round the chest, broad in front, narrow on the shoulders; crown, back, wing-coverts, and tertiary quills, hair-brown; larger wing-coverts tipped with white; primary quills with white patches, irregular in shape and size, at the base of their inner webs; secondaries with more white still, occupying in some cases most of the feathers; tail hair-brown, almost black at the feather ends, all but the middle pair tipped with white, which increases in area outwards, the outer pair being entirely white; legs and feet orange, claws black. Length $7\frac{1}{4}$-$7\frac{3}{4}$ inches, closed wing $4\frac{3}{4}$-$5\frac{1}{2}$. The female has a brown tinge in the black parts of the head, and her colours are duller generally.

In winter both sexes lose a good deal of the black on head and breast. Young birds have blackish bills and pale dirty yellow feet and legs; dusky-brown takes the place of the black in the adults. The nestling shews indications of the adult dress in the marking of its down; the white collar and dark pectoral band are clearly visible; the under parts are dull white, the upper prettily mottled with hair-brown and fawn colour, and, where the darker parts will eventually be, with black. (The above taken from English specimens in my collection).

The nest, as has been hinted, is usually near the sea, on shingly sand just above high-water mark: but occasionally inland, on the pebbly shores of mountain lakes or on barren sandy heaths. The nest is a mere hollow in the ground, less than three inches across and not an inch deep; there is seldom any lining, but occasionally scraps of leaves are found in the nest, more often fragments of shells, more commonly still small gravel of the size of pepper-corns, from which, perhaps, the bird gains its name of "Stone-hatch." Eggs have been found in Thetford Warren as early as March 23rd, but the end of April is the general laying time. I have found young birds, unable to fly, as late as August 25th, and eggs, not much incubated, on July 8th, but in both those years I ascertained that there had been unusually high spring tides during the breeding season, which had done much damage amongst the eggs. Still the Ringed-Plover probably rears two

broods of young in the season very often, though whether this is a general rule I am doubtful. Most likely it depends a good deal on the earliness of the season. The eggs are four in number, their ground colour varies from cream to clay colour, spotted and splashed with slate-grey and black; they are of the typical *Limicoline* shape, hardly 1½ inches long, and about an inch in greatest diameter. The old birds are very solicitous when their nest is approached, and use every device they can think of to draw intruders away from it; a better protection, however, lies in the colours of the eggs and young, which exactly match the ground they lie upon; and the young lie as still as the eggs.

The Ringed-Plover is essentially a shore bird, except partially during the breeding season. But even the individuals which breed at some distance from the sea, return thither as soon as the young can travel. This bird frequents sandy and muddy, rather than rocky shores, mingling with other species at feeding time, *i.e.*, low water. Its food consists of small crustacea, insects, and worms. It is a very pretty and engaging little creature, not naturally afraid of man, and harmed by none but the kind of prowling gunner (of which there are far too many in England) who want to kill, and kill as much as possible, caring little what it is they take the life of to no purpose. The Ringed-Plover very rarely mixes with other birds on the wing, as Dunlins, Curlews, Sandpipers, Sanderlings, and such-like do, but flies alone, or with its own species. Like most of the shore birds, when in flocks, Ringed-Plovers perform the most rapid and intricate evolutions on the wing; on the ground, too, they are remarkably active, running with such rapidity that their legs have the same blurred outline as the spokes of a wheel in quick motion. The ordinary note of the Ringed-Plover is a pretty dissyllabic whistle, but the male in the breeding season uses another pleasing note. I have a great liking for this gentle little creature; when lying by the sea-shore watching the migrant waders, I have many a time had Ringed-Plovers, in numbers, running about within a few yards of me, for hours together, quite indifferent to my presence.

Family—CHARADRIIDÆ.

LESSER RINGED-PLOVER.

Ægialitis curonica, GMEL.

THOUGH this bird has repeatedly been recorded as having been seen and shot in Great Britain, the undoubted instances of its occurrence, as attested by the production of the bird's skin, are few indeed, probably not more than a dozen in number. The smaller race of the Common Ringed-Plover, which occurs on migration on our coasts, has been the cause of this confusion. A few undoubted instances are:—one Shoreham (Doubleday); one Chichester (Borrer); one Scilly, October 23rd, 1863 (Rodd); two Kingsbury Reservoir, Middlesex, August, 1864 (Harting and Witford); one in the National Collection from the Isle of Wight, etc., etc.

The Lesser Ringed-Plover has possibly, though not probably, occurred as a rare straggler in Iceland and the Færoes. It breeds in Scandinavia, Russia, and thence across Asia, but rarely north of lat. 60°. It breeds in considerable numbers in Germany, Poland, Denmark, Southern France, Spain, Portugal, Italy, and South Europe generally. In Holland and Belgium, suitable breeding grounds being wanting, it is chiefly a bird of passage. In Asia it is found in Palestine in the summer, (though absolute evidence of its nesting there is wanting), but it breeds across Turkestan and South Siberia, to North China and Japan. I have an example shot six hundred miles up the Yangtse-Kiang. In Turkestan it is found nesting four thousand feet above sea-level, and in Kashgar even reaches an altitude of twelve thousand feet. In Africa it breeds in small numbers along the north coast, including Egypt, whence I have eggs. Its winter quarters are in North Africa, descending as far as Mozambique (Peters), on the east side, and the Gaboon (Du Chaillu), on the west. It has been obtained in Mauritius, but does not appear to have occurred in the Canarian group. Throughout Southern Asia in winter to the Philippines, and N. Malaysia as far as New Guinea. It gets its specific name from Courland (Curonia, *Latine*), where it is abundant.

Colour of adult male: bill black, with a small yellow spot at the base of the lower mandible; iris umber; forehead, chin, and throat, white, the latter extending into a white collar; lores and ear-coverts black; a broad black band over the

LESSER RINGED-PLOVER ♂ JUR. ♂ $\frac{7}{8}$

forehead from eye to eye; below the white collar a black one; crown, back, wings, and tail hair-brown, with indistinct lighter tips on back and shoulders; flight feathers darker, with a white shaft to the first primary only; white tips to the secondaries, forming a narrow white bar across the wing; rump paler; tail feathers darker at their ends, and all but the central pair tipped with white, which increases in area outwards, till the outer pair have only one (less commonly two or three) dusky spots on the inner web; breast and under parts white; legs and feet dull pinkish-yellow. Length $6\frac{1}{4}$ to nearly 7 inches, closed wing $4\frac{1}{2}$, the first primary very little longer than the second.

The female is like the male, except that the black on the head and neck is less in extent and duller in tint.

Young birds have only brown indications of what will be the black markings on head and neck, and the feathers of the upper parts are broadly tipped with buff.

Young, in down, are a smaller, slenderer copy of the corresponding stage in the Common Ringed-Plover, but with much more sandy in the down of the upper parts, and lighter, yellower, legs and feet.

The above descriptions are from skins in my own collection, mostly from China, but there is no perceptible difference between eastern and western specimens.

The Lesser Ringed-Plover does not breed on sea beaches, like its larger relative, but on similar ground inland, choosing the shingly banks of rivers, and the gravelly margins of inland lakes; more rarely it breeds on gravelly wastes away from water, but not on sand without an admixture of gravel. Its nest is a mere shallow depression in the shingle, in which are laid four eggs, of a clay colour, minutely spotted and finely streaked with purplish-grey under-markings, and sooty black on the surface—very different to the bold markings of *Æg. hiaticula's* eggs. Size, less than $1\frac{1}{4}$ in length, and an inch in breadth. The eggs are very difficult to find.

I have very little personal field-knowledge of this bird, but it is a fresh-water species, only found on sea shores during migration. As the larger Ringed-Plover returns from the inland districts to its favourite sea shores as soon as circumstances permit, so this bird leaves the sea shores (which we may compare to the lines of railway in our own journeys) for fresh-water districts as soon as may be.

Its ordinary call-note is similar to that of *Æg. hiaticula*, but is pitched in a higher key, easily recognizable. Its breeding note, however, is a much more ambitious one, ending in a trill somewhat after the manner of Temminck's Stint. Its food consists of small aquatic larvæ and insects, with small mollusca.

Family—CHARADRIIDÆ.

CASPIAN PLOVER.

Ægialitis asiatica, PALL.

AN adult male of this bird, (which had previously been twice obtained in Heligoland; see Gätke, "Heligoland," etc., p. 476), was shot on the sand dunes near Great Yarmouth, on May 22nd, 1890, and is now in the Norwich Museum. This species may be distinguished from all the other species of *Ægialitis* which have occurred on our shores, by the chestnut pectoral band of the adult bird, (dusky brown-grey in young birds, but always with indications of chestnut mixed with the grey), brown head, with no black on it, and long legs, (tarsus 1·6 inches), which are yellow in adults, pinkish in young birds..

It breeds on the Kirghiz Steppes and in Central Asia, (see Dresser, "P.Z.S." 1875, p. 97), and passes through S.E. Europe on migration, wintering in Eastern Africa and India.

Family—CHARADRIIDÆ.

KENTISH PLOVER.

Ægialitis cantiana, LATH.

THIS bird gets its specific name and the Latin form of it, "*Cantiana*," from having been described first by Latham, from specimens killed near Sandwich, in Kent, in 1787. As has already been suggested, local names are misleading;

KENTISH PLOVER ♂ NAT. SIZE.

in the present case this is so, for the bird is of wide distribution, and much commoner in many other places than in Kent.

A summer visitor to South and South-east England, Southern Sweden, Norway (once recorded only), Denmark, Holland, Belgium, and France. In Spain, Portugal, and on all the Mediterranean shores, it is resident, breeding on sea-shores and salt-water lakes inland; extending in winter to the extreme south of Africa. It frequents the Black, Caspian, and Aral Seas in summer, and all salt-water lakes in Central Asia, as far east as Mongolia, going southwards to Japan, China, India, and Indo-Malaya (*e.g.*, Borneo, Everett) in winter. Two Oriental species or races (*Æg. dealbatus*, Swinhoe, with pale legs and feet; and *Æ. peronii*, Müller, also with pale legs and feet and a black nuchal collar) have caused some confusion in determining exactly the winter quarters of our bird in the east. Very rare in Ireland.

Colour of adult male: bill black; iris umber; a white frontal band extending above and behind the eye; fore part of crown, lores, and ear-coverts black; rest of crown and nape tawny reddish-brown; a narrow white collar behind; back and upper parts generally hair-brown; wing quills of the same colour, with darker edges, their shafts white, with dusky bases and ends; secondaries with white tips, which, with the white-tipped greater coverts, form a double white bar across the open wing; central tail feathers almost black, external ones white, the intermediate ones passing gradually from the one colour to the other; under parts white; an incomplete pectoral band of black, *interrupted in the centre in front and behind;* feet and legs black. Size variable: length $6\frac{1}{2}$-$7\frac{3}{4}$ inches, wing $4\frac{1}{4}$-$4\frac{1}{2}$.

The female, in summer, has no black on the forehead, or only a trace of it, and the colours generally are less bright. In winter the chestnut crown is mixed with dusky brown, and the feathers of the upper parts more or less tipped with dirty white.

Young birds of the year resemble the female, but are paler and dingier still, and more mottled on the upper parts.

Birds in down (Lydd, 4, 6, 87, H. E. Rawson) closely resemble the corresponding stage of *Æg. hiaticula*, but are rather more sandy above; the interruption in the pectoral band is visible even at this early stage, and will separate the two.

The above descriptions from a series in my collection from Morocco, Foochow and Yokohama.

As has been already intimated, this is purely a salt-water bird, breeding on sea-coasts and inland salt-lakes, very rarely indeed found upon fresh water. It used to breed in some numbers on the coasts of the S. and S.E. of England, but ruthless shore-gunners and wholesale egg-collectors, with an unfortunate mania

for British-taken specimens, (*i.e.*, with an unlucky propensity to hasten the extinction of any scarce and interesting bird that may linger on in their own country), have harried the Kentish Plover till its final disappearance from our shores as a breeding bird is only too likely. I am happy to think that I have no British eggs of any failing species—I prefer to have them from a foreign locality where, from their comparative abundance, they will not be missed.

The nest is a mere hollow in the sand, or shingle, but sometimes (Hülshoff, Vogelw: Bork:) amongst wiry grass, and slightly concealed; four eggs are laid, or sometimes three, with small ends inward, and often downward. In Spain and the south they usually seem to lay three only. Occasionally (Dombrain, Zoöl., 1880, p. 138) the eggs are placed amongst stranded sea-weed and other "sea-ware" at spring-tide mark. The eggs are dull and rough in texture, of a greyer drab than those of either of the foregoing species, spotted and "scrawled" with dull bluish-grey and black, (much more scrawled than those of the two other birds); in size they vary from $1\frac{1}{8}$ to $1\frac{3}{8}$ inches in length, by $\frac{7}{8}$ to nearly an inch in breadth. (From S. Spanish eggs given to me by the late Lord Lilford).

Like a good many of the other *Limicolæ*, this bird performs in the breeding season similar aerial evolutions to those of a "drumming" Snipe, accompanied by a sound which is undoubtedly vocal, and not produced by either wings or tail. Also when the eggs are hatched, the parents go through various quasi-paralysed manœuvres, to draw off the attention of any person who is near their young. Eggs are laid in Spain from mid-April; in our latitudes, and in Sweden and Denmark, about the first week in May.

The food of this bird consists of small marine creatures, such as sand-hoppers. It reaches its breeding quarters in Spain by the middle of March, (Chapman); in England and Denmark by the end of that month, leaving for the south in September. In Spain many winter. When mentioning it above as "resident" anywhere, I do not wish to convey the impression that any *individuals* pass the whole year there. Birds are migratory to a much greater extent than most people are aware of. We all know that Swallows migrate, because in winter we have none. But we are apt to assume that, because we have certain species of birds—Hedge-Sparrows, for example—in our gardens all the year round, that this species is not migratory. But go to the north of its range—to Finmark, say—and you find it to be a summer visitor only, as Swallows are with us. Then go to Southern Spain, and you find it to be a winter visitor only, as Fieldfares are with us. It is reasonable to suppose, then, that all individual Hedge-Sparrows move northwards in spring, southwards in autumn, and that the individuals which breed with us, winter further south, and *vice versâ*. And herein consists the real value of albino

and partial albino birds,—to be carefully protected, observed, and timed,—not to be slaughtered at once and crammed into a cabinet, where they can teach us absolutely nothing. When will English people learn this? But I desire to end by explaining the point of this digression, that when I use the word "resident," it is invariably with this reservation—that it is the species, not the individual, which is resident—that the individual is probably migratory.

Family—CHARADRIIDÆ.

KILL-DEER PLOVER.

Ægialitis vocifera, LINN.

A CASUAL American wanderer, which gains both its English name "Kill-Deer," (or "Kill-dee," as it is often written), and its specific Latin name, from its loud and incessant cry. Two occurrences of this bird on our island are on record: one near Christ Church, Hants, April, 1857, upon which authorities look with some doubt; the other in the Scilly Islands, January 15th, 1885, about which no doubt exists. It has not been elsewhere recorded as occurring in the old world, except once doubtfully in Madeira. It is much larger than any of the foregoing species, (length 9½ inches, closed wing 6½), and may be recognized in all stages of plumage by the rufous upper parts (especially the rump), pale yellow legs, which are long, and *double* black (or, in young birds, dusky) band right across the chest.

Family—CHARADRIIDÆ.

GOLDEN PLOVER.

Charadrius pluvialis, LINN.

THIS bird gets its French name of "*Pluvier*," and thence its English and second Latin name, from its noisy restlessness in wet weather, *(en temps pluvieux)*, and from its abundance at the time of the stormy and wet Equinoxes.

In Great Britain the Golden Plover breeds in varying abundance on moors in Ireland and Scotland, and in England, north of the Trent, sparingly in Wales, and possibly in Devon and Somerset. It breeds abundantly in the Færoes and Iceland, Scandinavia, North Germany, and Russia, as far east as the Yenesei, where it meets the next species. Some few nest in Holland and Belgium. Elsewhere in Europe it occurs on migration, and its winter quarters are in S. Europe, Africa (down to the Cape) and Asia Minor. On our shores, the first migrants in autumn are a few old birds in faded summer dress, whose nesting arrangements have probably ended unfortunately; these appear early in August. About a month later come the young birds in numbers, and a fortnight later the bulk of the old ones. In the spring they may be noticed creeping northwards from the beginning of March, or, in open weather, even in February.

Colour of adult in summer, (from a male shot off four eggs, Dovrefjeld, 8, 6, 82): bill black; iris dark umber; forehead, and a stripe over the eye, white; crown, back of neck, sides of chest and upper parts generally, black, beautifully mottled with spots of golden, and creamy white, which are duller on the wing-coverts; primary and secondary quills sooty, with white shafts, except at the tips, margined at the ends with a narrow white border; tail barred diagonally with sooty and white; chin, ear-coverts, throat, centre of the breast and belly, black, forming a large patch with a white edge to it; thighs and under tail-coverts white; *axillaries long and white;* legs bluish-grey; no hind toe. Length $9\frac{1}{2}$-$11\frac{1}{4}$ inches, wing $7\frac{1}{8}$-$7\frac{3}{4}$.

Female in summer resembles the male, but has a sooty tinge in the black of the breast, and a few white feathers mingled with it.

Adults in winter have lost all the black on throat, face, and under parts, which are white, washed with dusky on chin, throat, and breast, spotted with brown.

♂ Young, Autumn Plumage

Golden Plover ♂½ Spring Plumage.

Young in first winter have the back much more thickly spotted with browner golden, and the under parts grey. Length 9-11 inches, wing 7 inches.

Nestling, ('Asbyrgi, Iceland): under parts greyish-white down; above delicately mottled with an exquisite mixture of black, grey, and golden; feet dark brown. The above from my own collection; from Britain, Norway, and Iceland.

It should be remembered, with regard to the summer plumage, that there are certain anomalies; it seems that the English breeding birds do not put on the full nuptial dress. I have often remarked this, and in the end of May, 1895, I was driving over one of the Durham fells, where Golden Plovers were breeding abundantly. More than a dozen, evidently breeding, came under my close observation with a glass, not more than forty yards from the carriage, of which they had no fear: not one of them but was flecked on the breast with white, and had a good deal of the same colour on chin and throat. Having written so much, it occurred to me that Abel Chapman was sure to have observed the same thing, and in his "Bird-life on the Borders," (the only book on that region that I have found of much value), I found, on page 18, "the Northumbrian Plovers, at best, are only marbled," and more to the same effect, for which readers are referred to that interesting and reliable book itself.

The other anomaly is, that some birds acquire the summer dress long before others do, (these anomalies are, probably, part and parcel of one another). On March 29th, 1879, as I was on my way down to the river (Tyne) to fish, I observed, and watched for some time, a flock of some fifty Golden Plovers, apparently on their way to the fells at the head of the Tyne to breed, and already some thirty miles from the sea. About half were in full (Northumbrian) breeding dress—the rest did not seem to be wearing a single black feather on throat or chest.

The nest is always on moorland in this country, but further north (as in Iceland) often on low, flat, grassy wastes, quite near the sea. It consists of a depression in the turf, lined with not much (if any) more material than has been growing previously on the site of the nest—if on grassy ground, with scraps of grass—if on open Norwegian fjeld, with reindeer moss; a few feathers from the bird's breast are usually found in the nest, rubbed off probably as the bird smooths and shapes the hollow by revolving in it. I have no evidence that the female incubates at all; and of four examples shot off the eggs and dissected by me, all were males; but I do not wish to lay down a law from so few instances. The eggs are four, very large for the size of the bird, pyriform, and with the narrow ends pointing inwards in the nest. They vary from a pale stone colour to olive in ground tint, (rarely of a warm reddish-buff), and are boldly and handsomely

spotted and blotched with purplish-grey and deep brown. Length 2 inches by rather less than 1½.

The Golden Plover is often absurdly tame in the breeding season—though less so in our country, where birds are seldom able to behave towards man with any degree of confidence—and is, at other times, wild and wary. Their usual note is a loud melodious double whistle; but they have two other notes in the breeding season, the one an equally loud and melodious triple whistle, with the accent on the longer middle syllable; the other note, a singular, but delightful and liquid, rippling love-note. On migration they travel chiefly by the coast lines, but I have heard the double whistle passing high above Hyde Park in the autumn, and have seen Golden Plovers passing through Northamptonshire in spring. They may be seen in vast flocks, occasionally, on the sea coast in autumn; one I especially remember noticing, with Mr. W. E. Clarke, which must have numbered many thousands of birds. In the distance it looked like a great cloud of eddying smoke; nearer at hand we saw it to be an immense whirling flock of Golden Plovers, executing most graceful and regular evolutions—now a dusky cloud with backs turned our way—now, and in an instant, a white one, with under parts towards us, "on the other tack." This was on September 2nd, 1886. Golden Plovers leave the fells in August, but return erratically according to weather, and I have shot them there on the last day of Grouse shooting (December 10th). In the south they are numerous on the coasts, in open weather, during the winter, and, to a less extent, inland, keeping chiefly to the neighbourhood of rivers. They feed mostly during the night, especially when there is a moon, but by the sea their feeding time is perforce regulated by the tide. They feed on slugs, worms, and insects, and generally have a little vegetable matter in their stomachs; when by the sea, on small mollusca, crustacea, and worms, etc. During the day, when not obliged by the tide, or other reason, to feed, they stand in flocks on grass-land upon one leg, sleeping, with the neck drawn in, and bill under the scapular feathers. But they sleep "with one eye open." In wet and stormy weather they never seem to settle down at all. They are easily called to the gun by an *exact* imitation of their note (but it must be very exact) and have a curious habit, in flocks, of diving down when shot at, giving a much better chance to the second barrel.

Family—CHARADRIIDÆ.

EASTERN GOLDEN PLOVER.

Charadrius fulvus, GMEL.

THERE are two forms of this bird, hardly (if at all) separable; the present one, which is Asiatic, and the American, which has been called *dominicus* or *virginicus*. The American is a shade the larger, the secondaries slightly shorter in proportion, and the yellow of the spots on the back the merest shade less vivid. It almost requires a microscope to detect the differences, and Dr. Sharpe, in the XXIV Vol. of the British Museum "Catalogue of Birds," very properly calls the two forms identical. But as Mr. Saunders' list is followed in the present work, I am obliged to treat them as different, and wish it to be understood that the following remarks refer exclusively to Asiatic examples.

Of these, four are on record as having been obtained in Britain; one was found in Leadenhall market, amongst other Golden Plovers purporting to come from Norfolk (Dresser, "Ibis," 1875, pp. 513-4), respecting which exact information is wanting. A second specimen was shot on the River Thames, off Shell Haven Point, by Mr. H. Nunn, August 6th, 1896 (Zool. 1897, p. 330). The other two have occurred in Scotland (Millais, "Zoölogist," 1886, p. 26, Perthshire); the third, from Orkney, Mr. Millais apparently thought to be only worthy of passing mention in the "Field." Three examples have been obtained by Herr Gätke in Heligoland, two in Malta, one in Spain, and one in Poland.* Its breeding range extends from the Yenesei to the Pacific, and as far south as Mongolia. Swinhoe, however, believed it to breed abundantly in S.W. Formosa ("Ibis," 1863, 404), and Jerdon ("B. of I." ii, 637) that it breeds in India in numbers down to Nellore (Madras). Modern confirmation of both these statements is wanting, and it seems probable that both writers were misled by seeing non-breeding birds (presumably not fully adult) during the breeding season. The Eastern Golden Plover passes the China and Japan coasts on migration, reaching S.E. Africa, Indo-Malaya, Australia, New Zealand, and Polynesia, in winter.

* Two specimens of this Asiatic Plover have been obtained on the mainland of Italy, and are preserved in the University Museum at Rome. One of these is a male in full summer livery, shot on the Isola Sacra, on May 11th, 1897. The other is a male in winter dress (Avicula, 1897, p. 93).—H.A.M.

The adult male (Foochow, May 2nd, 1886) is almost exactly like *C. pluvialis*, with the following exceptions:—the bird is considerably smaller; the bill, nevertheless, rather longer and slenderer; and the axillary feathers smoke grey instead of white. This distinction separates the two species at once, at all ages, and in all stages of plumage. Length 9-9½ inches; wing $6\frac{1}{4}$-$6\frac{3}{4}$.

In winter there is no appreciable distinction between the corresponding stage in *pluvialis* except the smaller size and grey axillaries. A chick I have not seen.

Hardly anyone has found this bird's nest. Von Middendorf did on the Taimyr, but gives no details. Swinhoe's description of the nest and eggs (Formosa) seems to refer to those of the Painted Snipe, though Seebohm attributes them to *Ægialitis geoffroyi*. Seebohm himself found the present bird nesting on the Yenesei, and gives the only good description of its nest I know of, ("Ibis," 1879, p. 154). "It was a mere hollow in the ground, upon a piece of turfy land, overgrown with moss and lichen; and it was lined with broken stalks of reindeer moss. The eggs, four in number, were a size smaller than the Golden Plover, averaging $1\frac{15}{16}$-$1\frac{1}{16}$ inches." In its behaviour at the nest and nesting habits generally, it differs little from our Golden Plover. I have suggested that the individuals found in summer in China and Formosa (and India?) have started with the bulk of the species on migration, but do not feel impelled, from personal reasons, to go as far as the breeding grounds, and are probably the young birds of the preceding year, or some of them. At all events, my series of skins of this bird, from China and Japan, seems to point to this.

Everything, almost, which is told us of this bird would apply equally to the ordinary Golden Plover; its food, its favourite kind of country, its rapid flight and note, seem to differ very little from those of the other species. The size of the bird and its smoke-coloured axillaries would no doubt distinguish it on the wing, even at some distance, as a capable field-naturalist can separate the Grey from the Golden Plover a long way off; and an observer with a good ear and memory would doubtless notice a difference in the note. Probably a good many more individuals visit our shores than we have any idea of, and should be systematically looked out for, especially on the east coast. Oriental birds, especially young ones, of species which breed far north, seem not uncommonly to "take the wrong turning," and follow the coast westward, instead of eastward, finding themselves in the end on the west European coast instead of that of Eastern Asia.

♀ Autumn — Grey Plover — ♂½ Spring

Family—CHARADRIIDÆ.

GREY PLOVER.

Squatarola helvetica, LINN.

THE "Swiss" Plover (which of course is the meaning of "*helvetica*," though the English version is never used), owes any distinction which may fall to it from this title, to the accidental circumstance that the specimens first described were found in Switzerland by Réaumur. It is a bird of very wide range, and much better known than its actual numbers in existence warrant. For on our coasts, where it is everywhere a feature in its season, I do not think that I ever saw a flock of much more than twenty individuals; while in its not extensive breeding quarters, though it is a good deal in evidence, the nests are probably a mile apart, or more, on an average. It breeds (as far as is known at present) in a comparatively small section of the extreme north, from the island of Kolguiev and the mouth of the Petchora (and possibly Novaya Zemlya, but we did not meet with it there in 1895), to the Taimyr Peninsula. But its summer range certainly extends to Kamtschatka. Its winter quarters comprise the greater part of the coasts of Asia, Africa (including Madagascar, etc.), Indo-Malaya, Australia, and Tasmania. It is rare in Greenland, but probably breeds in small numbers along the Arctic coasts of America, passing down the coasts in autumn and up in spring; it has not uncommonly been recorded from the West Indies on migration, and has occurred as far south as Guatemala. Its numbers in the New World, however, must be much less than in the Old, as it seems to be noticed so much less in American books. It does not visit Iceland, but is found in Scandinavia on migration, and is supposed to breed in the north of Norway, though direct evidence is so far wanting.

Colour of adult male: bill black, as long as the head, stouter than that of the Golden Plover; irides umber brown; forehead white, continued into a white eye-brow; crown, shoulders, and upper parts generally, black, each feather with a white tip and a brown-grey base, which gives the plumage of the upper parts a singularly handsome mottled appearance; on the shoulders the black becomes browner; wing-quills black, with white middles to the shafts and a white patch on the inner web (the dark does not shade into grey, as in the Golden Plover, but

is abruptly separated from it); upper tail-coverts and tail white, barred with black; lores, a narrow under eyebrow, chin, ear-coverts, front and sides of neck, and all the breast, jet black, with a white border all round this black area; rest of under parts white; *axillaries black;* feet and legs black. A small hind toe. Length $12\frac{3}{4}$ inches; wing $7\frac{3}{4}$; first primary longest by $\frac{3}{8}$ inch. The female in summer resembles the male, but has a few white feathers amongst the browner black of the under parts.

In autumn and winter there is no black except on the bill and feet, the wing-quills and axillaries. The latter even have a brownish tinge now. On the upper parts, what was black is now dark grey-brown and the under parts are dirty white, the upper breast slightly browner and streaked with grey-brown.

The young in first plumage are apt to be mistaken for young Golden Plovers, as the feathers of the upper parts are tipped with yellow. This, however, is not nearly of so golden a shade as the Golden Plover wears; and the blackish axillaries, larger size and stouter bill, with the hind toe, separate the two at once.

The nestling closely resembles that of the Golden Plover, but the yellow is duller and the mottling of the upper parts is coarser and less delicate.

The male in summer was shot off a nest containing four eggs, in Kolguiev (8, 7, 95); the autumn and winter birds I have obtained on the British coasts; the nestling came from Kolguiev, 12, 7, 95.

From the nests we found in Kolguiev, I should say that the Grey Plover's nest is a deeper cup than that of the Golden Plover. It is placed on a slight hummock, or ridge, when the ground is wet, on a flat, often boggy, plateau, thirty to one hundred feet above the sea and often not far from it. The lining of the cup, which is just large enough to contain the four eggs, is very slight, and consists, when there is any, of a few fine twigs; but the nest usually contains broken grass and reindeer lichen only. The eggs are larger than those of the Golden Plover, and very much like them, but the black markings are rather more irregular and less in the form of spots. Length $1\frac{9}{10}$ inches by $1\frac{3}{8}$, to $2\frac{1}{4}$ by $1\frac{1}{2}$. The first authentic eggs were taken by Middendorf, on the Taimyr; Seebohm and Harvie-Brown were the next to hit upon them, on the River Petchora (*i.e.*, in Europe), where they found ten nests. In 1894, Trevor-Battye found two in the Island of Kolguiev, and the next year our party (Messrs. H. J. and C. E. Pearson, Col. Feilden, and I) found seven with eggs, and obtained young in down from others, also in Kolguiev. Besides these, I do not know if any one else has taken the eggs. I ought to add that the male bird from Kolguiev, described above, has two bare hatching spots on the breast, from which it appears that incubation in this species also is, at all events, largely shared by the male.

Though a more marine bird, on the whole, the Grey Plover has attracted a good deal of attention from its habit of migrating across country. When doing so, it does not appear to follow any river or valley lines, but goes straight by direction. I have several times seen them far inland at migration seasons—for example, on a moor in mid Northumberland, October 27, 1877; once in the centre of Cambridgeshire; and on both occasions they were travelling as nearly as possible at right angles to the direction of the neighbouring rivers. Their food consists of worms and mollusca, marine or terrestrial, with larvæ in the latter case and small crustacea in the former. They seem to swallow a good deal of green vegetable matter also, and, by the sea, usually have some sea-weed in their stomachs. They pass northwards on our coasts from April and May, returning southwards from the end of July, when a few old birds in breeding dress appear; next come the bulk of the young birds at the end of August, and the rest of the adults and young a month later still, the adults in full winter dress. It is somewhat remarkable to find that species which go farthest north to breed are amongst the latest to stay on our coasts in spring, and the earliest to reappear in the autumn. The contrary would be expected to be the case, until the brevity of the circumpolar summer occurs to the observer.

The ordinary note of the Grey Plover is trisyllabic, and in a higher key than that of the Golden; at the nest they have a low plaintive whistle, uttered chiefly on the ground, and a loud disyllabic alarm note on the wing.

I may conclude this article with an extract from my 1895 log, detailing the discovery of a Grey Plover's nest, as it is not a common experience. "Kolguiev, July 8th, 1895 . . . "Afterwards, at 1-30 a.m., I piled some drift-wood against the N.E. side of the tent as a further defence against the elements, (wind and sleet), then, seeing the Pearsons about a quarter of a mile from camp, went out to meet them, and found them busily hunting for a Grey Plover's nest! So I joined in the search, and had the luck to find it in a minute or two (four eggs). It was placed on, or excavated from, a low hummock some four inches high, and was partly concealed from view by the short wiry grass on the top of it. But the real difficulty was—not to *see* the eggs, for the cover did not amount to anything—but to notice them, so wonderfully did their colour harmonise with the surrounding ground. There was no lining to the nest to speak of, merely some short ends of the surrounding stiff grass, broken off and smoothed down, no doubt, by the action of the bird's body when enlarging the hollow which formed the nest. I have been growling at the walking-stick guns on the last page—and for small birds they are disastrous implements, as they seem nearly always to ball their shot—but they were the only weapons at hand this time, and they did me a good turn. For

I borrowed Pearson's (while they went home with the eggs) and lay down flat in the bog. The old birds came back before long, but did not like the look of the new hillock; they evidently thought, however, that none of the humans were left, my clothes being perfect in colour. It was an absolutely flat bog, with no hummocks more than nine, or vegetation more than six, inches high. After waiting some minutes—which seemed hours—not daring to move an eye-lid, and feeling the wet steadily invading my clothes—I got a chance at the handsomest (the male, the female had some white feathers on the breast) at about forty yards, got him, and bore him camp-wards in delight."

Family—CHARADRIIDÆ.

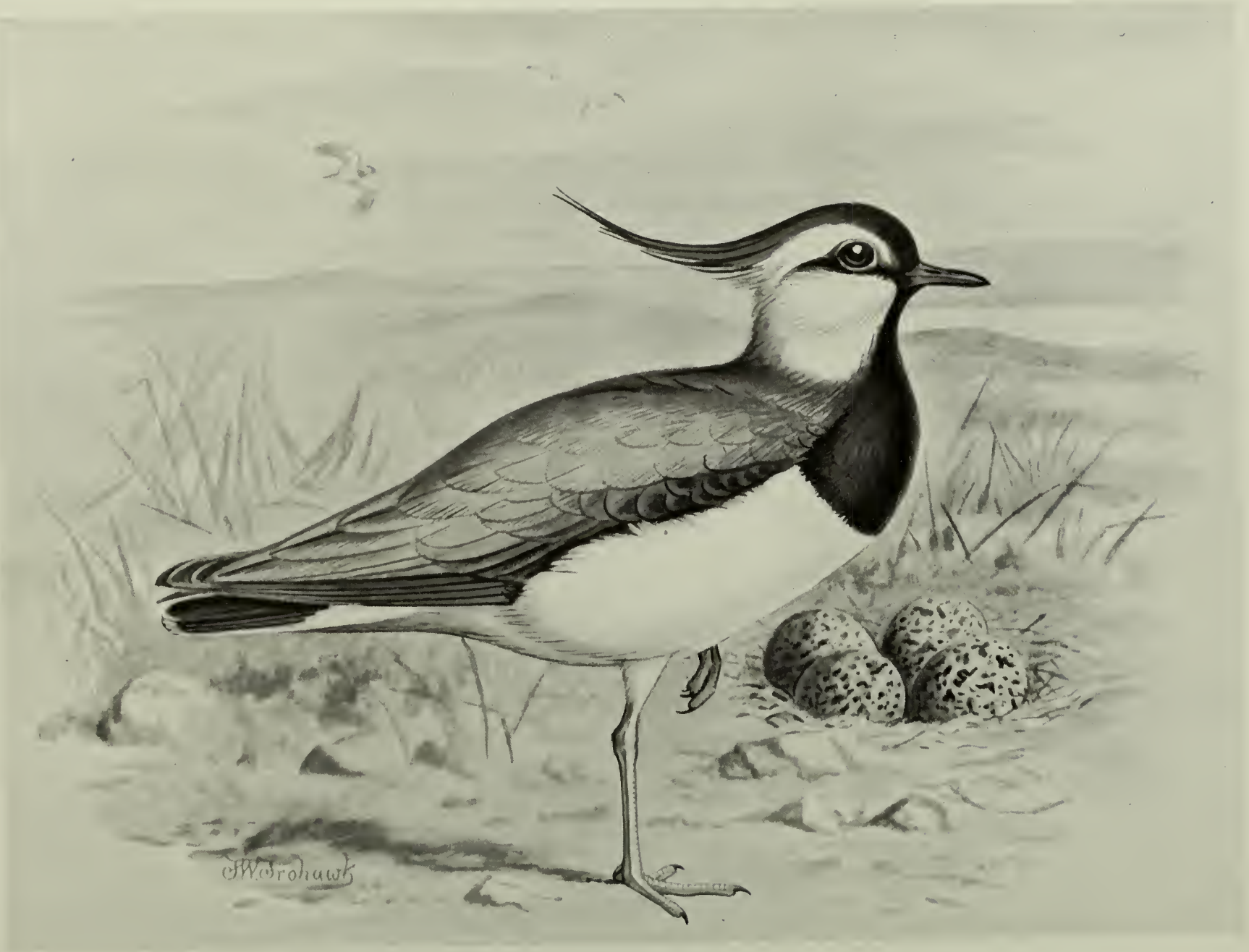
THE SOCIABLE PLOVER.

Vanellus gregarius, PALL.

A SPECIMEN of this bird was shot in Lancashire, about the year 1863, from amongst a flock of Lapwings (Proc. Zoöl. Soc., 1888, p. 416). Two have been obtained in Italy, one near Nice and one near Cadiz.

Its breeding range is a restricted one, ranging from the Crimea eastward to the Altai Mountains, but not further north than lat. 53° (Bogdanow), nor much south of 40°. It winters in India, Ceylon, Arabia, Egypt, Nubia, and Abyssinia.

The adult has a black crown; white eye-brows, bordered below with black, passing through the eye; grey back; white tail, with a dark brown bar near the tip (except on the central pair of feathers); white chin; buff neck; grey breast; black belly, with a chestnut centre; bill and feet (*with* a hind toe) black. Young birds are much dingier, but at all ages the short primaries, which are black with a white inner edge, will distinguish it. Length 13 inches; wing 8 inches.



LAPWING ♂♀

Family—CHARADRIIDÆ.

LAPWING.

Vanellus vulgaris, BECHST.

THE Lapwing (? flap-wing), Peewit (from its cry), or Green Plover (from the bronzy green sheen on the back), is about the best known of the *Limicolæ* in the old world north of the Equator. Its breeding range extends from the Atlantic to the Pacific, up to the Arctic Circle in Europe, up to lat. 53° in Asia. North of the Baltic it is a summer visitor only, but is resident in our country and in central Europe. Southwards it breeds down to Spain and even North Africa. To Iceland it is only a rare straggler, but in the Færoes, though rare, it breeds, and I have an egg given to me by the late Sysselmand Müller. South of the Himalayas it is a winter visitor only (though the eggs are said to have been taken in the Punjab by Theobald), as also in China. In Asia Minor, Palestine, Arabia, North Africa (with the exceptions mentioned above), the Canaries and Azores, it is a winter visitor also. It occasionally strays to the New World, has been recorded from Greenland and Alaska, and a straggler was shot in Barbadoes (Feilden).

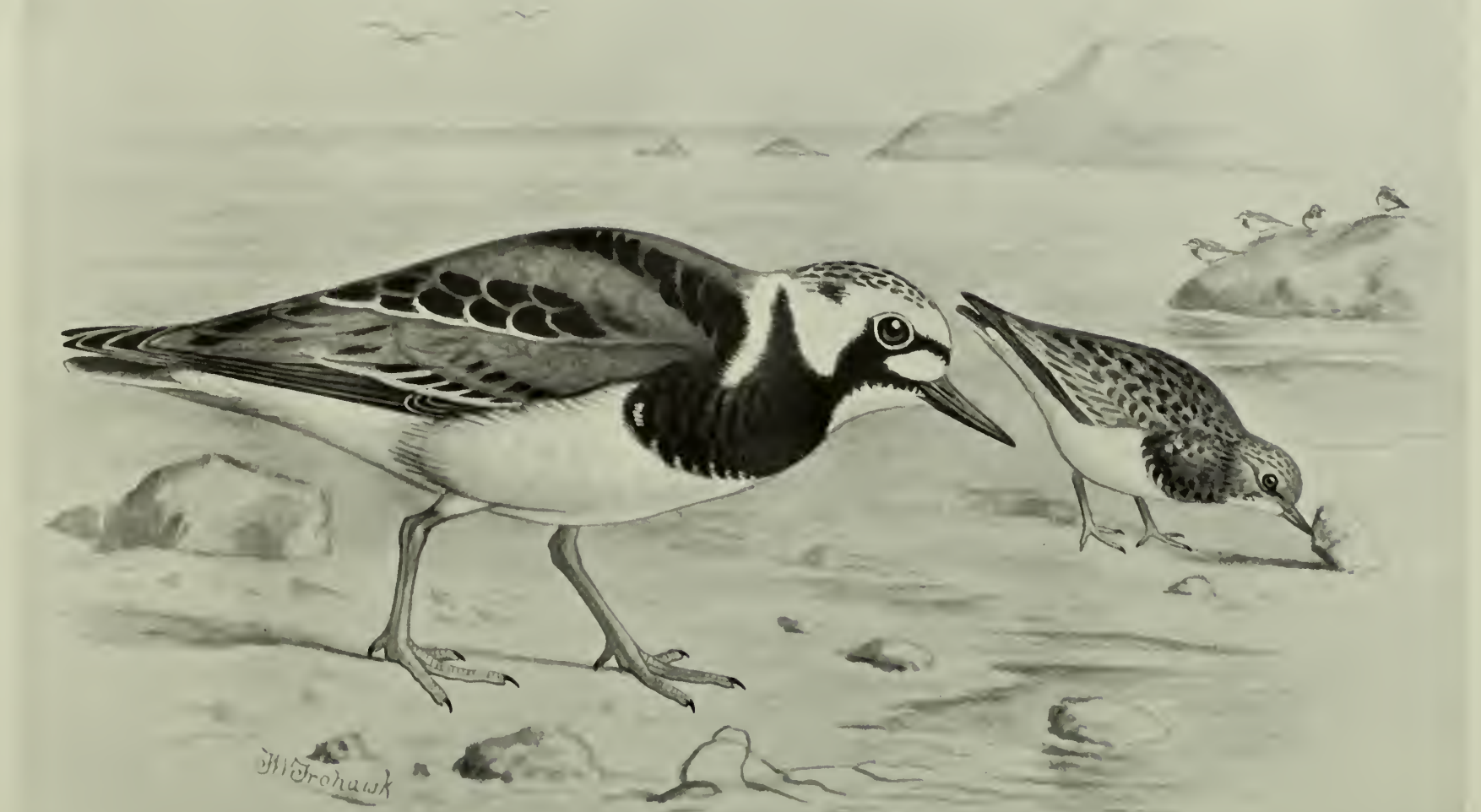
Description of the adult male (Northumberland, 23, 4, 78): bill black; iris dark umber; crown and long crest, back and wings, brown, approaching to black, with a greenish or purplish reflection, according to the way the light falls; nape, cheeks, sides of head and neck, white, speckled with black; primaries black, with a dull white patch near the end of the first four (sometimes three only); second and third primaries equal and longest, but only by a little, and the wing is very blunt-ended; tail white, with black tips to all but the outer pair of feathers; chin, throat, and breast, black; rest of under parts white, excepting the tail-coverts, which are chestnut, as are also those above the tail; feet and legs reddish; claws black; hind toe very small. Length 12-13 inches; wing $8\frac{3}{4}$-9. In winter the throat and chin turn white. The female is duller in tints, has a much shorter crest, and some white feathers in the black chin and throat.

Young birds have no black on chin and throat; the white of the head is tinged with buff, and the feathers of the back and wing-coverts are tipped with the same colour.

Nestling; two shades of buff above, delicately mottled with black; buffish-white below, with an indication of the black pectoral belt.

The nest is usually on low hills (seldom on high fells) or on marshy wastes. The male excavates several holes on slight elevations, on some common, or ploughed slope, in one of which the female lays four (very rarely five) eggs. There is nearly always some attempts at a lining, even when, as in a ploughed field, the material has to be brought from a distance. But this is principally added during incubation, and consists of grass and fine roots. The eggs have a greenish tinge when fresh, but this fades into a pale brown-buff, spotted, chiefly at the larger end, with deep brownish-black; occasionally the ground colour is pale grey, or even blue-grey. The eggs measure $1\frac{5}{8}$ by $1\frac{3}{8}$ in., and are very pyriform. The greater part are laid in April, but some may be found in March and up to the end of the first week in June. Owing to the eggs having become a fashionable spring delicacy ("Seest thou not what a deformed thief this Fashion is?") and the consequent merciless harrying of the nests, Peewits have for some time been decreasing in numbers in the south and east of England; but the bulk of the eggs sold in the London markets now come from Holland and other parts of North Europe, where they have the greater wisdom to regulate and restrict carefully the taking of them. Black-headed Gull's eggs (which, when shelled, closely resemble those of Peewits, except in the mere detail of shape), and even Rook's eggs, are occasionally sold for them. The female Lapwing incubates chiefly during the day time, as far as can be ascertained in the case of so wary a bird. When a human intruder catches her eye (which is long, as a rule, before she catches his) she steals off the nest, and creeps stealthily for some distance before taking wing, and then flies up as if she had come from somewhere else; while the male endeavours to divert attention from her movements by wheeling and tumbling round the intruder's head, screaming incessantly the cry which is anglicised as "Peewit." When they have young birds, the latter squat closely when they hear the parent's alarm note, and the old birds put on as "groggy" a gait as they can, to coax dangerous visitors away. They will dash at a prowling Crow, or Kestrel, with the utmost energy and courage, and strike them if necessary.

Wild and wary to a degree, Lapwings are anything but a favourite bird with the wild-fowler, as their alarm note and agitated flight disturb everything within sight and hearing. But, like many wild and wary birds, they get very tame in confinement, and are, apart from their pretty and engaging ways, very desirable inmates of a garden, as their food, consisting of worms, slugs, and insects, endears them to a gardener. But I must express a decided opinion that loose in a roomy walled garden is the nearest to a cage that any *Limicoline* bird should get.



♂♀ Spring — Turnstone — ♂ Jur. Autumn

Though round-winged—and being blunt-winged generally means that the bird is not a very far, or rapid traveller—the Lapwing is a bird of powerful flight, moving faster through the air than it seems to be doing. As well as when the nest appears to be threatened, Lapwings seem to be generally addicted to aerial antics, especially the males during the breeding season; the way in which they absolutely fling themselves about in the air at this period, without any apparent reason, is probably a means of commending themselves to the attention of the females, like the drumming of the Snipe. In some parts of the kingdom, Lapwings are netted in considerable numbers for the market; they are an excellent bird for the table, though hardly equal to the Golden Plover when fresh from the inland hills.

Family—CHARADRIIDÆ.

TURNSTONE.

Strepsilas interpres, LINN.

THE Turnstone gets its name, and the generic one of *Strepsilas*, as also its local name in nearly every European language, from a characteristic habit to be mentioned later. Why Linnæus called it "*interpres*" it is difficult to divine; but a somewhat far-fetched explanation is given in the B. O. U. List of British Birds, viz: "*interpres*"="explainer," *i.e.*, "warner," of other birds. This name might be with justice applied to the Redshank, Curlew, or Peewit, (but even then *interpres* is not the word that would naturally be used); to the Turnstone, which is tame and silent, it is quite inapplicable.

The Turnstone is a circumpolar bird, breeding in the colder parts of the Arctic New and Old Worlds, and migrating southwards as far as 30° S. It has been ascertained to breed in Greenland, Iceland, Scandinavia, Kolguiev, Novaya Zemlya, and on the Arctic coast of Europe, Asia and N. America. In Great Britain and the Færoes positive evidence of its having done so is wanting, but it

seems not unlikely in both cases, as the bird has been seen in N. Scotland and the Færoes throughout the summer. But it must not be forgotten that a good many Waders do not breed, and are found, in partial or complete summer plumage, south of their true breeding grounds; whether these non-breeders are some of the last year's birds (as seems probable), or whether there is a temporary predominance of one sex, as with us, so that all cannot find mates, is difficult to determine. If Mr. Rudyard Kipling would devote his "Jungle Book" abilities to the solution of these difficulties, and pass a couple of springs and summers in the society of birds, he would earn the undying gratitude of ornithologists! The Turnstone passes along our coasts in considerable numbers; a few stay all the winter with us, and in May are re-inforced by large numbers from the south. Early in August, a few old birds in summer plumage return from more northerly regions, the third week of that month many young birds are to be seen. In winter the Turnstone is found, as has been hinted, in a considerable portion of the Southern Hemisphere, including the islands of the Pacific. I have shot it in winter dress on Rodrigues (Phil. Trans., vol. 168, p. 462), which is a small island out in the Indian Ocean, with three hundred miles of sea between it and the nearest land; Waders, including this bird and the Whimbrel, were pretty abundant there nevertheless. The Turnstone keeps to coasts, as a rule, and rarely goes far inland, except, apparently, in India (Jerdon).

The male in summer (R. Goubesta, Kolguiev, 6, 7, 95; shot from a nest with three chicks and one *fresh* egg! Has a bare hatching spot on either side of the breast). Bill black, slightly "turned up"; iris umber; forehead, lores, a patch behind the eye, back of neck, lower back, chin, and under surface generally, white; crown white, with broad black shaft-stripes; upper surface generally black, with a bronzy sheen and broad chestnut tips to the feathers on the scapulars, tertiaries, and greater wing-coverts; a line of white through the median coverts, extending down the outer margins of the tertiaries; tail white, with a black bar and white tips to all but the central pair of feathers, which increases in area outwards till the external pair are almost entirely white; a black moustache from the base of the lower mandible to the breast, joining the broad black pectoral belt, and sending upwards on either side a curved black line in front of the eye (which does not reach the base of the upper mandible, as Saunders states, nor do the two meet in the middle in *full* summer dress, though they do in birds shot on our shores on the southward journey, which are only in partial summer dress), and another broader line, which goes half-way round the bottom of the neck; feet and legs rich orange, claws black. Length about nine inches, closed wing six, or rather less. A male in my collection, from Yokohama (2, 5, 83), has much more chestnut

on the upper parts than I have seen in any western specimen. Birds shot on our coasts in autumn have invariably, in my experience, begun to put on autumn dress.

The female is a slightly dingier copy of the male, with less chestnut above.

In winter old birds lose nearly all the rufous of the upper parts, and much of the orange of the legs.

Young birds have faint traces, only, of the chestnut on the wing-coverts and tertiaries; the upper parts are dark brown, with darker centres to the feathers and narrow light tips; back, throat and under parts white, the black gorget mixed with brown, and its branches on the sides of head and neck barely indicated; legs and feet dirty orange.

Nestling (Bieluscha Bay, Novaya Zemlya, 26, 7, 95) above, including side of head and neck, grey-fawn colour, warmer on wings; lower back mottled with black; under parts white, with a dusky grey pectoral band.

Hewitson first found the Turnstone nesting, on islets off the Norwegian coast; others, like him, have found it breeding quite close to high-water mark, and I had some difficulty, till we found the nest, in persuading my companions when in Kolguiev, that it nested on low fells a mile or two from the sea. The first nest I had experience of was on a bare lichen-covered moor in Iceland some five hundred feet above the sea, and seven miles from it, whence I got four eggs. The nests we got in Kolguiev were in similar places, and in Novaya Zemlya the birds, with their young, were still on the higher ground. The nest is a slight hollow, lined, in those I have seen, with fragments of the surrounding lichen. Near the sea the nest is often placed under shelter of a stone, or tall plant, and generally lined with a few bents. The four eggs are laid about the middle of June (or later in the far north) and are of a greenish-grey colour, spotted and streaked with blue-grey and dark brown; size 1½ inch, or a little more, by about an inch. Bare incubating patches are found on the breasts of both sexes equally, shewing that the duty of sitting on the eggs is shared fairly.

The Turnstone, like the larger Ringed-Plover, Sanderling and Dunlin, is a tame confiding bird in our latitudes and shews little fear of man—at first. It feeds on the shores, paying less attention to the state of the tide than any other Limicoline bird I know, feeding at high- and low-water impartially. In the former case its ways can be easily watched and enjoyed. It then frequents the line of "sea-ware" at high-water mark, and hunts busily amongst the rubbish for sand-hoppers, and the larvæ of flies, which breed there abundantly. So doing, it constantly employs the curious motion, which has gained it a local name almost all over the world. It inserts its bill under a shell, stone, or, more

usually, heap of sea-weed, then, with a funny upward jerk of its whole body (automaton-like) the object is suddenly lifted and turned over, and the bird quickly picks up any small creatures which have been concealed underneath. If the stone be a heavy one, the breast is applied to move it, without the peculiar jerk. The food of the nestling described above, and of two others I obtained about the same time, consisted of small beetles and flies, and there was a considerable amount of unused yolk-sac in the abdomina.

The Turnstone is a silent bird with us, entirely so on the ground, and on the wing uttering a low rapid unmelodious twitter or chuckle. But at the nest in the far north, it is certainly vociferous, uttering continually a loud clear and not unpleasing note, usually on the wing, which I have mentally vocalised (though I have little belief in printed formulæ of birds' notes) by the syllables, "Gibby-gibby" repeated rapidly and continuously. The Turnstone is a fairly good bird for the table, before it has been too long on our shores—comparing most favourably with the Redshank, for instance. In captivity (as we learn from Saunders' Yarrell, and as would be expected by any one who had watched the bird much) it gets very tame, and makes a pretty and engaging pet.

It is a handsome bird when at large, and a difficult one to describe, as readers of the foregoing (with which I am very moderately satisfied) will have gathered. Its pied appearance rather suggests a miniature of the Oyster-Catcher; indeed, I have heard it called locally the "little pyot," but much more commonly the "dotterel."

I once obtained an example of this bird which had only one mandible (the upper), the lower one having been cut off by some injury where it joins the head, and the scar quite healed up. But it was in good condition.

OYSTER-CATCHER ♂♀

Family—CHARADRIIDÆ.

OYSTER-CATCHER.

Hæmatopus ostralegus, LINN.

THE Oyster-Catcher, usually called "Sea-pie," or "Sea-pyot," in the vernacular from its pied dress,* is a resident in our country (using the word with the qualification mentioned on page 61), frequenting the shores during the winter, rocky ones for preference, and breeding in Scotland in considerable numbers, either on rocky shores, or by loch-sides far inland. It occurs in Greenland as a rare straggler, is rare in N. Iceland, but common in the South, remaining to winter there in flocks; very abundant in the Færoes and throughout Scandinavia. In Northern Europe it breeds up to the Arctic Circle, and occasionally north of it, as far as the mouth of the Ob, and southwards to the Mediterranean, on rocky shores and also by large rivers and inland lakes, salt as well as fresh. In Southern Europe, however, it is not common, except in winter. It visits India (as far east as Burmah), Ceylon, and the Persian Gulf, in winter; and the coasts of Africa, as far as Mossambique on the east and Senegambia on the west coast. In Eastern Asia a closely allied, if not identical, species *(H. osculans)*, with a slightly longer bill and less white on the wing, takes its place, and in S. Africa, another, with no white on it anywhere *(H. capensis)*, which is found as far north as the Canary Islands.

Description of the adult: bill long (2½-3 inches), flattened laterally, ending in a narrow vertical chisel edge, orange coloured, darker towards the tip; iris crimson; eyelid reddish-orange; head, neck, upper breast, shoulders, smaller wing-coverts, inner tertiaries, and terminal half of tail, black; back, upper tail-coverts, and basal half of tail, greater wing-coverts, inner secondaries and outer tertiaries, under side of wings, rest of under parts, and a small tick under the eye, white; primaries black, with a white streak on the inner web, extending to the outer web also from the fourth inwards; legs and feet flesh colour, with a crimson tinge; claws black. Length about 16 inches, closed wing a little over 9½. Sexes alike.

In winter, and for about half the year, there is a white patch on the throat, and the legs are of a duller flesh colour.

* On the S.E. coast of England the Oyster-Catcher is commonly termed the "Olive" (cf. "Birds of Essex," p. 238).—H.A.M.

Young birds have a rusty tinge in the black of the back, and the feathers are tipped obscurely with greyish-white; the legs are of a dirty grey flesh colour; the bill is also of a more dingy yellow, and only, or under, $2\frac{1}{2}$ inches.

Upper parts of nestling grey, the down tipped with buff, and mottled on head and back with black; several irregular black lines down the crown and back; under parts white.

I have only found the nest on small rocky or shingly islets, such as are common near the larger islands on the west coast of Scotland. But I have seen at Rannoch, in Perthshire, several years, and elsewhere in the Highlands, large numbers of Oyster-Catchers conducting their young down to the sea from mid-July onwards. By the sea the nest is a depression in the shingle, just above high water mark, or on a ledge of rock a few feet higher, or even a hollow in the turf on the grassy top of the islet. On the rock a little sea-weed is used, but whether placed there by the bird, or not, is doubtful. More probably the bird selects the spot because the sea-weed is already there, thrown up by the storms of the previous winter. There the eggs are laid, as often three as four, not abruptly pyriform, of a clay-buff, spotted and streaked with grey-brown and black; one in my cabinet from the Færoes is very boldly marked with one or two large blotches of greyish and black, but this is unusual. Their length is nearly $2\frac{1}{4}$ inches by about $1\frac{1}{2}$.

The Oyster-Catcher is a shy and wary bird, but, like the Peewit, Missel Thrush, and many another shy bird, very bold near its nest or young. At Rannoch, mentioned above, I have got perfectly sick of them and their incessant noise, which, as a general rule, is rather a pleasant wild note than otherwise, consisting of a loud, clear, monosyllabic whistle, repeated six or eight times. In autumn and winter they cannot be considered noisy, but are, of course, conspicuous, so doubtless, except when danger presses, find it best to be quiet. Their food is, by preference, shell-fish, but they eat annelids and any small marine creatures they meet with, including sand-hoppers. I have watched a Sea-pie knocking a small green crab to pieces, and picking out the meat. They frequent sand and shingle banks for safety, at high-water pass their time amongst the sand-hoppers, feeding at low water on mussel-scalps and tangle-covered rocks. Where the latter are absent they never stay long, and are only seen in ones and twos. Where suitable feeding grounds are adjacent, flocks of forty or fifty are not uncommon. I have never found them an easy bird to watch at reasonably close quarters.

Every one knows how easy it is to get an unsuspecting limpet from a rock, and how difficult when the creature has taken alarm and had time to cramp itself to the stone. The Oyster-Catcher knows this too, and (according to Gray, "Birds

of W. of Scotland," pp. 269-70, to which the reader is referred for some good field-notes) only makes an attempt when it can "see day-light" between rock and shell, sufficient to admit suddenly the point of the powerful chisel bill. I have never been near enough to observe this. The Oyster-Catcher would probably be an attractive and useful inhabitant of a walled garden: for the table it is useless, and ought never to be shot, except by anyone who wants a specimen.

I have never been able to satisfy myself as to which sex incubates, never having shot a bird off a nest, nor, I may add, tried to. Probably both take a share, as is common amongst the Order. Howard Saunders (Yarrell, iii, 296) describes the female as doing the sitting, while the male keeps guard, and no doubt so accurate a writer has evidence, from bare spots on the breasts of skins, etc., for this statement. But even in that case, the male would probably relieve the female at meal-times.

FAMILY SCOLOPACIDÆ.

VERY difficult to characterize according to the present arrangement. A large group of Limicolines with lobed *(Phalaropus)*, webbed *(Recurvirostra, etc.)*, or unwebbed feet *(Scolopax)*. Bill slender, used for probing, scooping *(Recurvirostra)* or picking; bill schizorhinal (*i.e.*, consisting of three slender bony bars, united at the base and tip only). The tip of the bill usually highly endued with nerves, which open in hexagonal pits in the bone, and are only covered by a thin flexible horn sheathing. This will be further noticed when describing the Snipe, in which the arrangement reaches its extreme development, and is an apparatus for detecting the presence of living and moving organisms in the mud or moist soil, in which the bill is probing for food.

The principal groups are:—

1.—The PHALAROPES, which have membranous lobes on the sides of the toes, like those of the Coot; these "feather," to use a rowing term, on the forward stroke, and offer resistance to the water on the backward stroke of the feet.

2.—THE SNIPES *(Scolopax)*, which have no trace of webs between the toes; large-eyed nocturnal feeders, with acutely sensory bills.

3.—THE SANDPIPERS *(Tringa, Calidris)*; shore-feeders, short-legged and gregarious, with, as a rule, a summer plumage differing much from that of winter.

4.—THE "SHANKS" *(Totanus, etc.)*; shore-feeders, long-legged, partially web-footed, and only moderately gregarious, not differing much in plumage at different times of year.

5.—THE GODWITS *(Limosa)*, very close to the last, but having a very distinctive summer and winter dress.

6.—THE CURLEWS *(Numenius)*, with long decurved bill and no summer dress; feet partially webbed.

Family—SCOLOPACIDÆ.

AVOCET.

Recurvirostra avocetta, LINN.

FOR half a century, or more, exterminated as a breeding bird in our country, the Avocet is now only a casual visitor. Seeing that the reclaiming of waste land, and its increased value to its possessor, has largely contributed to this result, the ornithologist, however deeply he may privately regret the circumstance, cannot offer any valid objection—it is the march of progress, even if progress seems to be partly towards the rear. But the merciless greed of collectors—of those who collect only to possess—has also had a considerable share in pauperizing our fauna; it is greatly to be regretted that gentlemen of that turn of mind (many of whom rank as naturalists—save the mark!) do not confine their attention to second-hand postage stamps. "Small flocks (of Avocets) still arrive in May, ... but are never allowed to breed, for the amasser of British-killed specimens offers to the local gunners inducements which far exceed the amount of any fine and costs that would be imposed, even in the problematical event of the offender's conviction under the feeble Wild Birds Preservation Act," (Saunders, Man. B. B.

AVOCET ♂ ♀

545). The Avocet bred regularly, early in the century, in Lincolnshire, Norfolk, Suffolk, Kent, and Sussex; now it visits us in spring and autumn alone, in small numbers. It breeds in Denmark, on the coast of Holland, in the Camargue (Mouth of the Rhone), and the delta of the Guadalquivir; also round the Black, the Aral, and the Caspian Seas, across Asia to Mongolia, chiefly, if not altogether, by salt lakes and marshes, passing the Japan and China coasts on migration, as far south as Ceylon. In Africa it is widely distributed, breeding in small numbers down to Madagascar and Cape Colony.

Colour of adult male (Spain, May, '76): bill black, much flattened, turned upwards towards the point, and over $3\frac{1}{2}$ inches long; iris red brown; crown, forehead, sides of head to below the eye, back of neck, innermost scapulars, lesser, median and tertiary wing-coverts, and seven first primaries, black; the latter have white bases, increasing in area inwards; all the rest of the plumage white; legs very long, pale blue; length nearly 18 inches, closed wing $8\frac{7}{8}$ inches. The female is a trifle smaller.

Young birds are not quite of so pure black and white, the black has a brown tinge, and there is a tendency towards rusty tips on the upper parts.

The nestling is covered with white down, greyer on the back, and mottled on crown and back with dark brown-grey; legs and feet of a green-grey, or blue-grey.

The nest is a slight hollow, usually in bare dried mud where water has stood during the preceding winter; sometimes in sand or shingle, occasionally amongst short grass. A very little grass is sometimes used as a lining. The eggs are three or four, laid about the middle of May, of a clay-buff, or occasionally grey-buff, spotted and blotched with cold grey and black, and measuring about 2 inches by $1\frac{1}{2}$. Avocets breed in colonies; both sexes share the duties of incubation, which lasts, according to Naumann, seventeen days, but probably twenty is nearer the mark.

The bill of the Avocet, from its peculiar shape, suggests at once that the wearer does not probe the mud for worms, etc., as the bulk of the family *Scolopacidæ* do—which is the case. The bird subsists on surface food, feeding very commonly knee-deep in water, or even deeper. The bill is used with a curious skimming action. Dresser, writing of the American species of Avocet, mentions that a flock of them, feeding in diagonal line, with sidelong sweeps of their bills, reminded him forcibly of a line of mowers. They are good swimmers, as their feet, much webbed for waders, would lead us to expect.

Their food consists of small crustacea, worms and insects. They are shy, quiet birds in general, but very noisy when the eggs, or the young, are approached.

The Avocet's note is a clear melodious whistle, from which, when it bred in Britain, it used to be called the "Yelper"—as also the "Scooper," from its peculiar action of the head when feeding—and the "cobbler's awl bird," from the shape of its bill. One cannot help thinking that this, and other interesting birds, might still be induced to breed in Britain, if some of our wealthy men—instead of helping to make England a monotonous preserve of hand-reared Pheasants, for the purpose of showing how large a number can possibly be scientifically slaughtered in an hour, or a day—would be only moved to take an interest in the vanishing members of our wild fauna. This has been done, with good results, in the case of the Farne Islands, and against very great odds—for which the Committee of Protection deserve the thanks of all naturalists. But this, of course, is a drop in the ocean. It would not be difficult—even for a syndicate of those who are only of moderate means—to acquire tracts of fen, waste, and sea-marsh, at present prices, where a gun should never be fired, nor a prowling loafer or collector admitted. In such a sanctuary—not an impossible dream—it might be possible to see and watch the Avocet, Stilt, Spoonbill, Marsh and Hen Harriers, Great Bustard, and many warblers, ducks and Herons, which now, if they visit Britain at all, have but a short lease of life, and are quite unknown, except as skins, to the majority of English naturalists.

Family—SCOLOPACIDÆ.

BLACK-WINGED STILT.

Himantopus candidus, BONNAT.

THE Stilt has never been known to breed in Britain, but many specimens have been obtained on our shores, mostly towards the south and east of England. In Scotland some seven, in Ireland three, occurrences are on record. It breeds in the Camargue (Bouches du Rhône), Spain, Portugal,

BLACK-WINGED STILT ♂♀ ♂ JUR. AUTUMN PLUMAGE

Sicily, Sardinia, Northern Africa, the Dobrudscha, Turkey, and the Black Sea basin generally, the vicinity of the Caspian and Aral Seas, in Palestine (in small numbers), India and Ceylon, and Central Asia, as far east as China (where, however, it has not yet been found breeding, yet it must do so, as it occurs there in April and May, and I have the skin of quite a young bird, described below, from thence). In Central and Northern Europe it occurs as a straggler, but does not appear to reach Norway, Sweden, or Finland. In Africa, as well as breeding in the North, and Madagascar, it is found as a migrant down to the extreme south. With us it seems to occur at any time of the year.

Colour of adult male (Foochow, 18, 4, '86): bill black, $2\frac{3}{4}$ inches long; iris bright red, almost carmine; crown and nape black, extending to the ear-coverts; forehead, neck, shoulders, lower back and under parts, including axillaries, white, with a rosy tinge on shoulders and breast, which Saunders calls evanescent, but which is quite perceptible on my ten-year-old skin—daylight, however, would probably destroy it long before this length of time; upper part of back, scapulars and wings (above and below), jet black, with a bottle-green reflection (purple in some lights) on the upper parts; white shafts to the secondary quills; tail light ash-grey; feet and legs very long, rose-pink; claws black. Length 14 inches, closed wing $9\frac{3}{4}$. The black on the head vanishes in very old males. The female has the back tinged with brown, and no green sheen.

In young birds (Foochow, October 24th, '85) the crown is grey, as are also the back of the neck and shoulders, the feathers of the latter tipped with white; wings brown, median coverts edged with rufous; the inner primaries and secondaries have broad white tips, which disappear entirely in adult dress; iris brown; legs bluish flesh colour. I have given this description at some length, as I know of none elsewhere of this state of plumage.

Upper parts of nestling (d.d. H. E. Dresser, Seville, June 1889) dark grey, mottled with light grey; a great deal of rufous on back and crown, in the form of broad tips to the down; under parts white. There are considerable swellings of the legs, in the upper part of the tarsus especially, which is double in diameter to the lower half. This shews itself to a less degree in the older bird described above. See the Norfolk Plover.

Like the Avocet, the Stilt breeds in colonies, but makes a much more ambitious nest, especially in wet places. In Spain (teste Chapman) they make a "fairly solid nest of dead black stalks of tamarisk, etc." And Hume states that in India they build a platform of scraps of lime, on the margins of evaporation pans in which salt is made, some three inches high by seven or

eight, and line a shallow saucer in the top with grass. Four eggs are the complement, but three, sometimes two only, are found. In Spain they are laid early in May, but further eastward in June. The eggs, which are usually smeared with mud, are less than 2 inches in length, sometimes $1\frac{5}{8}$ only, by about $1\frac{1}{4}$ in breadth, and, as well as being decidedly smaller, are darker in ground colour than those of the Avocet, being of a brown stone-colour, spotted and blotched with black. Mine came from Egypt (Stafford Allen), and Algeria (Tristram).

The extraordinary development of leg in this species especially lends itself to wading, and the Stilt, which cannot reach the ground comfortably when on dry land, feeds accordingly in about six inches of water, picking from the surface and the water plants insects and mollusca, catching swimming larvæ and crustacea. On the wing its long legs trail behind it, looking like the long pink tail of one of the "Bosen-birds." It is a quiet bird, as a rule, (though Chapman once speaks of a "chattering pack" of Stilts) and, until taught caution by man, a pretty tame one, stalking gravely about in the marshes. When man approaches its nest, it utters a loud clear whistle, which Naumann compares to that of the Dusky Redshank.

Family—SCOLOPACIDÆ.

GREY PHALAROPE.

Phalaropus fulicarius, LINN.

THE Phalaropes (literally "Coot-feet") are a small well-marked group, distinguished at once by the lobed webs to the toes, which are quite unlike anything else to be found amongst the Limicolæ. The present species gains its vernacular name from the grey winter plumage, in which alone it is known on our shores; it has hardly ever occurred even in partial summer dress. It is only

♀½ Autumn Plumage. Grey Phalarope ♂¾ Spring Plumage.

an irregular visitor to us, at the best of times, some years not occurring at all, at others appearing in great numbers, especially in the extreme S.E. In the autumn of 1866 there was a great irruption, and Mr. J. H. Gurney calculated that nearly five hundred were slaughtered, and half of these in Sussex alone. It seldom occurs with us except in autumn, and on (or near) the east or south coasts; rarer northwards, in Ireland and on the west coast of Scotland hardly ever seen. It breeds in Spitsbergen; in small numbers in the south of Iceland; not, as far as has been ascertained, along the northern shores of Europe (though Trevor-Battye saw a pair in Kolguiev); but along the arctic shores of Northern Asia and America, including Greenland, in fair, though nowhere large, numbers. In autumn it migrates down Scandinavia and Western Europe, often missing our shores, to winter by the Mediterranean. In Central Europe it seldom occurs, but crosses Asia to the Persian Gulf and North India, even reaching New Zealand, but has not been recorded from Japan or China. It is also found on the coasts of America, and has wandered as far south as Chili. Its distribution in winter is puzzling, and I am inclined to think that many individuals winter not far from their breeding grounds, wherever the sea is open, and that the southern migrants are only a small proportion.

Colour of female in summer (Point Barrow, Alaska, 5, 6, '82): bill yellow, with dark tip; crown and around bill sooty black; cheeks and ear-coverts white; shoulders, scapulars, tertiaries, and central upper tail-coverts, sooty black, with broad buff margins; wing-coverts ashy-grey, with narrow white tips, median series with broad white tips, forming a white bar across the wing; primaries nearly black, with white shafts; tail dark grey, with narrow buff margins; under parts deep ruddy chestnut, except the black chin, white axillaries and under wing-coverts; legs and feet yellow, rather darker at the joints. Length $7\frac{1}{2}$ to $8\frac{1}{4}$ inches, closed wing about five. Males are decidedly smaller and duller in colours, having the under parts mottled with white, and the feathers of the head with buff margins, like those of the back.

In winter the bill is black, as is also the back of the head; the forehead, sides of head, throat, and under parts generally, white; back of neck, secondaries, and back, clear blue-grey. This plumage is gradually assumed, and the bird as met with on our shores, though it has lost the ruddy under parts, has generally traces of darker summer plumage on the back.

Young birds differ from adults in winter dress in shewing more sandy on the borders of the feathers above, including the crown, and some muddy red on the upper breast.

"The nest (I quote from the 'Report of the International Polar Expediton

to Point Barrow, Alaska,' Washington, 1885) is always in the grass, never in the black or mossy portions of the tundra, and usually in a pretty wet situation. A favourite nesting place was a narrow grassy isthmus between two shallow ponds. The nest is a slight affair of dried grass, and always well concealed. Four is the usual number of eggs in a complete set, although sets of three incubated eggs are to be found. Some of the pairs have their complement of eggs by the middle of June, but others much later. The whole duty of raising and taking care of the brood, after the eggs are laid, falls upon the males, who hatch the eggs and take care of the young brood, while the female spends her time away feeding. We never found a female sitting on eggs, or took one with her breast plucked." We have no English account approaching to this. The nest appears to be usually close to the sea, or within easy reach of it. The eggs are very like those of the Red-necked Phalarope (which, I feel sure, do duty for them at times), but are a shade larger and broader in proportion to their length. They are of a greenish-buff, blotched and speckled, especially at the larger end, with dark umber brown, and measure about $1\frac{1}{4}$ inches, by a little more than $\frac{3}{4}$ inch.

I borrow again from the Alaska Expedition Report. "They arrive early in June, in full breeding plumage, already paired, and remain till late in October, when the sea begins to close. The adults appear to leave about the end of July, as the great flocks which stay so late, seem to be all of the young of the year. They are extremely tame and attractive little birds during the breeding season, paddling about the little ponds on the tundra in their peculiarly graceful manner, having apparently no fear of man or beast, and keeping up a continual twittering, as of conversation, amongst themselves. They are at all times a noisy bird, especially when gathered in flocks."

In our country they seem to affect small brackish ponds and horse ponds, in fields and in farm yards, near the sea, rather than the actual sea-shores. I know such a horse pond where several Grey Phalaropes have been seen at different times, though the pond is actually in a frequented farm yard, with a high-road along one side of it.

Their food consists of small aquatic creatures, crustacea, larvæ, and the flies which frequent water.

RED-NECKED PHALAROPE ♂ ♀ ¾

Family—SCOLOPACIDÆ.

RED-NECKED PHALAROPE.

Phalaropus hyperboreus, LINN.

THIS bird—of which I daresay I have seen as much as most people, having encountered forty-five nests with eggs in them in one day, and considerably more than a hundred altogether—is, like its nearest relative just mentioned, rather a puzzle. For it ought to be a comparatively common bird with us on migration, but it is not. It is an abundant breeder in Iceland, and hardly less so in the Færoes and Northern Scandinavia, Finland, Russian Lapland, Waigatz, Kolguiev, and eastward along the northern coast of Asia to Bering's Straits. In the New World it breeds plentifully in Greenland and across the Continent to Alaska, being therefore circumpolar. It is difficult to understand why it does not occur regularly on our coasts as a migrant. Indeed, in none of its known winter haunts is it anything like so abundant as its numbers in breeding quarters would lead us to expect. If it does not, as has been suggested in the case of the Grey Phalarope, perform only a partial migration, and remains as near its breeding grounds as the openness of the winter allows, the only likely explanation would seem to be that, being essentially a fresh-water bird, it must migrate across country towards the S.E. But this solution presents difficulties, as it has not been met with inland in any appreciable numbers. It breeds in small numbers in the north of Scotland, and the nest has been found in the counties of Perth and Inverness, in the Hebrides, Orkneys, and Shetlands, but now, owing to the greed of collectors (or "clutch-mongers," as an indignant acquaintance of mine calls them) some of its British haunts know it no more, which is a grievous pity, as, with the exception of Britain, it is hardly known to breed south of the Arctic Circle. On migration it seems to be more abundant down the Volga, in Persia, and on the China coast, than anywhere, but where the bulk of the individuals get to in winter remains a mystery. West of Italy it is very rare in Europe, east of Italy it must be called scarce. It has occurred in winter in Celebes (Reinwardt), Aru (Wallace), and Amboina (Hoedt); across the Atlantic in Mexico, and the United States, and once in the Bermudas (Reid), and Guatemala.

Description of male in summer (Iceland, Norway, etc.): beak black, very

slender and pointed; iris umber; crown, side of the head, back of the neck, back and wing-coverts, dark blue-grey; scapulars with black centres, fawn-coloured margins and white tips; wing quills nearly black, with white shafts and white tips to the secondaries; central upper tail-coverts brown, lateral ones white, with brown centres; tail grey-brown; chin and throat white, a chestnut collar on the throat nearly meeting behind, and varying a good deal in extent; top and sides of breast and of body dark grey; centre of breast, belly, and under tail-coverts, white; legs and feet greenish-grey; claws black. Length 6½-7 inches, closed wing 4¼-4½. Young males, presumably of the last year, have the grey feathers on the breast margined with white, and the head more or less streaked with light brown. Females are larger than males (7-7¼ inches, wings 4½-4¾) and generally handsomer, the tints purer and brighter, and the head never (as far as I have seen) streaked.

Young birds (Eyvindarleikr, Iceland, 28, 7, '94, caught by my retriever and unable to fly) have the crown black and eyelids white; a downy fawn-coloured streak from the forehead to the nape; back black, margined on scapulars and tertiaries with a good deal of rufous; no chestnut on the throat; feet yellow-brown, and very little lobed.

Adults in winter have the forehead and a broad stripe over the eye white, as also the throat, sides of neck, breast, and under parts generally. The feathers of the back have a good deal of chestnut margin and sometimes of white; many of the wing-coverts are tipped with white; iris nearly black; feet blue-grey.

Nestling above yellow-brown, mottled with dark brown, several irregular black longitudinal stripes on the upper parts, two of which commence on the crown, and one through each eye; under parts white.

The nest, a deep comfortable cup, is concealed in a tuft of grass, or under a trailing branch of some dwarf arctic shrub; it is made of fine grass; eggs four, much pointed at the smaller end, their ground colour varying from olive-green to almost russet, boldly blotched with black—very handsome and attractive eggs. I once found seven in one nest, but this must have been a joint-stock concern. Jerdon ("Birds of India," ii, 695) asserts that the females (of all the Phalaropes presumably) leave the care of the nests to the males and lead a club-life in separate flocks. In the present species I have not found the sex to be so much "emancipated." I have never shot the Red-necked Phalarope off the nest, often as I have had the chance to do so, nor have I seen bare hatching spots on the breasts of either sex. I have no doubt that the males are the most attentive parents, but in the case of isolated nests, the second bird makes its appearance before you have been there long, and I have repeatedly seen both with the young.

In fact I should have said that, of all the birds I know, the present species is the most connubial, and the mutual devotion of a pair is a most charming thing to see—in fact, quite touching. When not actively employed, they treat themselves, and one another, to all manner of pretty and playful endearments.

When on the water a Phalarope suggests a miniature Duck, from its buoyant carriage, high out of the water, and protruded breast. They are essentially birds of fresh water, and if found near the coast on migration, will probably be met with on small brackish or fresh-water ponds, as has been mentioned of the Grey Phalarope. I shall never forget my first interview with this bird; it was on the Dovrefjeld in 1882. I had no specimens and wanted some; wandering in the marshes, I came across a pair swimming in a small pool. I expected them to rise when they saw me, but this was apparently the last thing they thought of doing. So I made demonstrations and noises—this only made them think that I was some strange kind of lunatic—they merely paddled across to the further side of the pool, some fifteen yards away. Then I threw a bit of willow stick at one of them, but the little creature only swam behind a tuft of rushes. I was near giving it up, and going; but I hardened my heart (which took a little doing) with the reflection that I was making a working collection of birds' skins, and had come some distance to get this bird, amongst others: so I broke off a good big willow branch and heaved it at them, and at last made them rise, and got them. The reader will see that I do not return my conscience-money anonymously.

Since then I have seen a great deal more of the Red-necked Phalarope, but never have shot one without some "dying-antelope" qualms. Sometimes they have been kind enough to fly overhead, with their characteristic *wit-wit-wit*, (the only note I have heard them utter), and then it comes easier. One day, Mr. Thos. Carter and I were eating our frugal lunch by a lake-side, in Iceland, where these birds abounded (it was the day on which we found forty-five nests with eggs). Probably a hundred were in sight; some were stealing through the grass and bushes, quite close to us, like mice; others were floating and resting on the water, in pairs mostly, some preening their feathers, some making love (though it was long past pairing time, and all had eggs), some playing comical little tricks on one another. They took no more notice of us than if we had been boulders. They are certainly amongst the tamest and most engaging of birds. Their food consists of small worms and insects, and it is pretty to watch them catching flies, with little trips and darts like a Wagtail's.

Family—SCOLOPACIDÆ.

WOODCOCK.

Scolopax rusticula, LINN.

A VERY well-known bird, of wide range, which, for some reason or other, is less of a pure migrant, and more of a resident in our country than it used to be, breeding, in greater or less numbers, wherever there are thick undisturbed woods, with damp rushy feeding grounds adjacent. This last appears to be a *sine-quâ-non*, and will explain why Woodcocks do not breed in certain apparently suitable localities. The bulk nest in Northern Europe—Scandinavia, Germany, Finland, and Russia—and no doubt across Asia to Mantchuria. But their numbers will probably be found to decrease eastward; I infer this from their small numbers on migration on the eastern coasts of Asia. They have been found breeding in Italy, Austria, the Canaries and Azores, the Himalayas and Japan. In winter they are found all over Southern Europe in suitable localities (enormous numbers used to be shot in Albania, when we held the Ionian Islands, but their numbers there now are not what they used to be). They occur in more or less abundance also in Egypt, Palestine, Persia, and India. As has been stated, they are not abundant in China. In America some few examples (probably of European origin) have occurred; in the Færoes one, in Iceland and Greenland none.

Description of the adult; bill long (about three inches), tapering, light brown, darker at the tip; eye very large (indicating a habit of feeding at night), and very far back in the head; iris dark brown; the plumage of the head and upper parts a delicate mixture of "wood-brown," "burnt umber," and "hair-brown," (I take these exact tints from Ridgway's "Nomenclature of Colours," a book which ought to be better known), and black, disposed in exquisite mottlings; a dark brown line from bill to eye; primaries dark brown, with chestnut saw-tooth markings on the outer web, except on the first primary, which has a narrow cream-white outer margin instead; tail feathers black, narrowly barred with chestnut, and with broad ash-grey tips which are white underneath; under parts fawn-brown, finely barred with darker brown; feet and legs yellow-brown. Length $13\frac{1}{2}$-$14\frac{1}{2}$ inches, wing $7\frac{1}{4}$-$8\frac{1}{2}$. English bred birds are thought to be smaller, as a rule, and redder above than foreign migrants, and more mottled with black on the back. Females resemble the males exactly.

WOODCOCK ♂ ⅜

Young birds have the outer margin of the first primary barred with chestnut saw-teeth like the rest, are more distinctly barred on the lower back and tail-coverts, and the legs and feet are of a darker and dingier brown.

Nestling, fawn colour, with a broad chestnut bar down the spine from bill to tail bordered with cream colour; a black line through the eye.

The nest is usually placed on a drier hillock in a wood where the trees are not very high or thick; often at the foot of a young Scotch fir, or other tree. I have found about thirty nests in Northumberland, and take some credit for only possessing one egg, which was an addled one. The nest is a mere hollow in the moss, a few dead leaves (oak-leaves, frequently) being added as incubation progresses. I cannot say whether male or female takes exclusively the duty of incubation, or both conjointly, never having handled a Woodcock shot in the breeding season. But for some time after hatching one or other of the parents is in close attendance upon the young birds, and sometimes both. I have more than once seen the young birds conducted about a shady wood in broad daylight. Most writers speak of four as the usual number of eggs, but I have oftener found three only. They are not noticeably pyriform, are of a light drab (occasionally brown), spotted and blotched finely (seldom boldly) with blue-grey, light brown, and dark umber. As is well known, the old birds carry the young away when danger threatens. I have several times seen this done, and quite agree with Hancock's view; the old bird drops on the young one to be moved, with one foot on each side of it, and snatches it up at the moment she takes wing again, so that her feet, between which it is, press it close to her breast. The Woodcock is an early breeder, nesting sometimes in March, but usually the eggs are laid in April, and I have never known of fresh eggs later than the end of that month.

Though many breed with us, there is a large migration from the North in late autumn. If the moon is full about the end of October, they appear to come in a big "rush" then, but sometimes in driblets as early as the end of September, as late as mid-November. But their movements are largely influenced by the wind and atmosphere, as well as the moon; if the weather is foggy, or they are exhausted by a heavy contrary wind, they drop on the coast as soon as they touch it, and large bags are sometimes made on the sand-hills by those on the look-out for them. If the wind is light and weather clear, they seem to pass inland at once to favourite and suitable covers. Should frost come—which drives the worms down, and also prevents the birds from probing—Cock move south and west. Therefore it is in our south-west counties, Wales and West Ireland, where, owing to the Gulf Stream, frost and cold are seldom severe, that the best Woodcock shooting is to be had, after the seasonal migration is over. Though they travel

as a rule at night, and chiefly at the time of the full moon, this is not invariably the case; on October 28th, 1881, I saw a Woodcock come straight in from the sea, twenty yards high, and pitch on a bare patch of shingle: this was shortly before mid-day, and I thought it such an unusual circumstance that I skinned the bird for my collection. It has been long held that the British-breeding Cocks leave as soon as the young can fly sufficiently well. I think Hancock originated this theory, but I never could accept it, and was pleased to find, when Howard Saunders' "Manual" came out, that his opinion was that this non-appearance was "attributable to self-effacement." I had devoted some attention to the question, when resident in Northumberland (where the bird breeds in comparative plenty), and published some notes in the "Zoologist" (1884, p. 104) stating that I had found Woodcocks about in June, July, August, and September—in fact in all the twelve months of the year.

It is well-known that Woodcocks follow certain routes to their favourite feeding-grounds in the evening, as they also have preferences for certain woods, and certain parts of woods, to lie in during the day. In short, they are very peculiar and fanciful in their tastes, and are guided by circumstances not apparent to us in their liking for one place rather than for another which seems to our eyes to offer the same advantages. A wood, above my father's late house, in Northumberland, was a regular passing-place for Cocks, and at dusk, on any April or May evening, a sight of half-a-dozen at least was a certainty, as they passed rapidly above the trees, announced, long before they themselves were visible, by their peculiar half-squeak, half-whistle. I have here seen them "tilting" in the air, in the manner described by St. John, and others. It has been suggested that this tilting (at which time they tumble and twirl about in the air in pairs and threes, apparently prodding at one another with their bills) is connected with pairing, but I cannot think so, as I have witnessed it as late as the end of May. I rather think it is pure playfulness, as of children just out of school, after lying concealed and quiet most of the day.

I have occasionally flushed Woodcocks at night from wet rushy fields, where they were doubtless probing the ground for worms and larvæ, occasionally turning over the droppings of cattle for concealed beetles. But they also feed in woods to a certain extent, turning the dead leaves over to find insects, etc. The accounts of the extent of their appetites, and of the amount of worms, etc., which they will put away at a sitting, are surprising. These they find in the earth with their bills, which are modified into a very delicate organ of touch.

If the horny epidermis be removed, a number of small pits of a hexagonal shape will be seen in the bone at the end of the bill, remotely suggesting an

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incipient honey-comb. In each one of these pits a minute fibril of the olfactory nerve has its termination, and by this means, when the bill is thrust into the soft wet soil, the slightest wriggle of the least living creature is instantly telegraphed to the Woodcock's sensibilities. This arrangement is highly developed in the Woodcock and Snipe (in which the pits are clearly visible in the dried skin) and, to a less extent, in a good many of the Limicoline birds.

Family—SCOLOPACIDÆ.

GREAT SNIPE.

Gallinago major, GMEL.

A BIRD much oftener reported than seen in this country; the majority of the "Great" Snipes, which are honoured with obituary notices in the papers, are only fine examples of the Common Snipe. The present species breeds in Scandinavia, Denmark, North Germany, Finland, and Northern Russia, down to 50°, and in small numbers in Holland. Ranging as far east as the Yenesei, it has not been recorded from China or Japan, and therefore does not, in all probability, extend its breeding range to the eastern half of North Asia, *Gallinago solitaria* and *G. japonica* taking its place. It occurs in Britain in small numbers (chiefly birds of the year) on the autumn migration, and principally on, or near, our east coasts. In Ireland only three or four undoubted occurrences are known, in Scotland only six or eight. The only one that I have handled in the flesh was one which was picked up on the Yorkshire coast by Mr. W. E. Clarke, with its neck cut half through by a telegraph wire (and curiously, the next summer I picked one up on the Dovrefjeld, which had been killed in exactly the same way). Throughout Europe it is found on migration, but west of the Alps on the autumn journey only, very rarely indeed in spring. It is recorded as passing through

Morocco, Egypt, and Persia, reaching in winter the Transvaal and Natal, but decidedly rare on the west side of Africa.

Description (male and female, Dovrefjeld, June, 1882). It will be sufficient to point out that this species bears a general resemblance to *G. cœlestis*, with the following differences:—it is larger and more "cob-built," but with shorter bill and legs; the under parts are transversely barred throughout from bill to tail; the secondaries and median coverts are conspicuously tipped with white; the tail feathers are sixteen in number, instead of fourteen, and the two outermost ones on either side (sometimes three) have the terminal half white. Also the outer web of the first primary has only the narrowest possible outer margin of buff; in the Common Snipe it is entirely white, except at the tip. Length 10½-11½ inches, closed wing 5½.

Young birds (more usually met with in Britain than adults) have the outer tail feathers buffy-white at the ends, instead of pure white—never mottled, as in the Common Snipe, and the white tips on the wing are less noticeable.

The nestling resembles that of the Common Snipe (vide Saunders) but is much less ruddy above; and (teste Dresser) the white-tipped outer tail feathers begin to shew themselves at a very early age.

There is no difference in plumage between the sexes at any age.

The nest (which I have found on the Dovrefjeld and in Russian Lapland) is placed on the top of a tussock in a marsh, often—I should say usually—amongst thick willow bushes a yard or more high. The nest is a mere hollow in the grassy top of the tussock, with a little grass, or moss, or a few dead leaves, as a lining, but probably only what grew or lay there before the bird made, or deepened, the nest hollow. Eggs, normally four, decidedly larger than those of the Common Snipe, and darker coloured, sometimes of an almost olive-green ground. [This makes them difficult to separate from those of the Ruff, and intending purchasers will do well to exercise caution in the case of eggs purporting to come from Denmark and Holland, where both species breed together]. Ground colour grey buff, or, as stated, olive buff, with purple-grey and brown-black spots and blotches, usually larger and bolder than those on Ruff's eggs; length about 1¾ inches by 1$\frac{11}{16}$-1¼. There is an interesting account of the nesting, and of the sitting bird covering its back with moss, in the "Ibis" (1861, p. 87), by the Messrs. Godman. Both sexes incubate, but the only one I have shot off the eggs was a male. The eggs are laid about the first week in June—one in Russian Lapland had eggs slightly incubated on June 24th, so they will probably be a week or ten days later in the extreme north.

As to habits, the reader is referred to an interesting paper, by Professor Collett,

quoted in Dresser, "B. of E." vii, 635. The Great Snipe is a nocturnal bird in great measure, and a remarkably silent one, never, in my experience, uttering a note when flushed, as the Common Snipe nearly always does. The only note (for which see Collett) appears to be uttered at the "playing place." But I was much surprised by a peculiarity of this bird, when I first came across it, though I have since met with several references to it by other observers. I was making my way through a thick willow marsh on the Dovrefjeld, and heard, some score of yards to my right, a rapid snapping noise, similar to that produced by drawing the thumb-nail across the teeth of a comb. I felt sure that it must be made by a bird, and stopped to listen; the noise ceased instantly too. I took a step or two, it began again, stopping when I did. After this had been repeated a few times, I made my way to the spot from which the sound appeared to come, and a Great Snipe rose, which I shot. I could see no other bird there, and came to the conclusion that the peculiar sound was made by the Great Snipe's bill, and that the bird was showing its objection to the disturbance caused by my forcing my way through the thick willow scrub.

The flight of the Great Snipe is heavier, slower, and more direct than that of the Common Snipe, making it an easy bird to shoot. As a rule, it frequents drier places (during the day) than that bird, being found on dry grassy or bushy ground, bracken, or heath; in this country, usually in turnip or potato fields. The food appears to consist of larvæ, especially the "leather-jacket" grub of the crane-fly, usually known as "daddy-long-legs," and of slugs and worms; but I have never found anything recognizable in the digestive canal. The Great Snipe appears to be decreasing in many of its haunts: Collett is of this opinion with regard to Norway, and the bird is such an excellent one for the table, so much more looked after nowadays, and so comparatively easy to shoot, that the circumstance is not surprising. Great Snipes get so fat in the early autumn, that falling to the shot not uncommonly bursts the thin skin.

Family—SCOLOPACIDÆ.

COMMON SNIPE.

Gallinago cœlestis, FRENZEL.

A WELL-KNOWN and much-loved bird, unfortunately decreasing considerably in numbers in England, as its breeding grounds are drained and brought under cultivation. It still breeds in some numbers in Norfolk, Suffolk, and Lincolnshire, and sparingly elsewhere, where it can find peace and suitable quarters, *e.g.*, on the moors of North Britain and Ireland. It is found breeding pretty commonly in Iceland and the Færoes, and the whole of northern and temperate Europe and Asia, migrating southwards to North Africa, to the Azores and Canaries and the Gambia westward—eastward to Abyssinia and the Somali country. In Asia it is found in winter all over China, Burmah, and the Malay countries, as far south as the Equator, India, Ceylon and Arabia. Asiatic records are somewhat confusing, owing to the presence of the Pin-tailed Snipe (*G. stenura*, with twenty-six tail-feathers), which occurs wherever ours does, and goes further south in winter. In America the Snipe is called *G. wilsoni*, and though it has sixteen tail-feathers (ours normally fourteen) a comparison of a large series of specimens from both hemispheres makes it certain that the two can only be kept separate for convenience sake. A Snipe has been observed in Greenland, but I believe that no specimens are available for examination.*

Description of the adult: bill brown ($2\frac{3}{4}$ inches long), darker at the tip; iris umber; head and neck light brown, darker on the crown and hind neck; four dark brown lines from the bill, one through, and one over each eye; back prettily mottled with chestnut, clay-brown, and black; long buff outer borders to the scapulars and tertiaries; wings dark grey-brown, median coverts mottled with the two browns, like the back; greater coverts and secondaries white-tipped; first primary with the outer web, except at the tip, creamy-white; tail (fourteen feathers) mostly black, this colour decreasing in area outwards, till only black bases are left on the outer feathers; a broad subterminal chestnut bar to the central feathers, followed by a narrow dark brown one and a reddish white tip; the outer feathers

* Hagerup states that the common Snipe is "somewhat uncommon; may possibly breed" [in Greenland], ("Catalogue of the Birds of Greenland," p. 54).—H.A.M.

COMMON SNIPE ♂ ¾

much more barred, the chestnut becoming a speckled grey-brown; chest and sides of the body light brown, spotted with dark brown; belly white; under tail-coverts rusty; axillaries white, narrowly barred with black; feet and legs greenish-brown. Length about 10½ inches; wing, closed, a shade under five.

Young birds are dingier in hue, and the chestnut on the back is duller, but greater in extent; the axillaries are sometimes plain unbarred smoky grey, sometimes partially of this colour; not seldom those of one side, or part of those under one wing, are like this, the other side being barred as in the adult.

The bird described as Sabine's Snipe is only a dusky, or melanic form of the young of this bird. Instead of the normal colours, it is dull brown all over, barred with paler yellow-brown. Cream-coloured and white Snipes occur sometimes.

Nestling (Laxadalr, Iceland, 15, 7, '85): a lovely little creature, of the most delicate chestnut-brown above, mottled irregularly with black, and varied with soft grey tips to some of the downy plumes; throat pale brown, chest ruddier; belly grey-brown; iris very dark brown; feet and legs yellowish-brown.

The nest is an inartistic affair, being a mere hollow, usually amongst grass, often on a rushy tussock, lined with a few bents. The eggs are four in number, pyriform, varying in ground-colour from light olive to greenish-buff, boldly marked with purplish-grey and rich dark brown, chiefly at the larger end. Length 1½ inches by nearly 1⅛. If any mischance occurs to the eggs, a fresh nest is usually made, and often three eggs only laid in it. They nest as early as the end of March, but usually lay in April. On the other hand, young in down are sometimes found as late as August in the British Isles.

Snipe frequent river sides, osier beds and marshes, as is well known, feeding by probing the wet soil with their bills. On August 8th, 1894, at 'As, in North Iceland, I was finishing my morning toilet by a small waterfall, which fell into a little muddy pool. Just across the latter, and not twenty yards from me, two Snipes were diligently probing the bare mud for their breakfasts, utterly indifferent to my presence. It was not warm, and I was incompletely dressed, but such a chance rarely comes even in a naturalist's way, so I waited a full half-hour to watch them. Should the bill, when thrust into the mud, come in contact with the smallest living creature, its slightest wriggle is instantly perceptible to the delicate senses of the Snipe, in the bill of which may be seen the same arrangement of nerves and sensory pits as has been already mentioned in the case of the Woodcock (page 107). During the day Snipe are often found in turnip fields, when the ground is tolerably wet, and a hundred or more occasionally rise from the same field. Also they have a great affection for sewage farms, where the rank vegetation affords them cover and abundant food, and the ground is always soft.

Seventy couple to one gun in a day is, I believe, the largest known bag in Britain: this was made by Lord Leicester, at Holkham. But in India this would formerly (not nowadays) have been thought nothing very unusual.

The Snipe has gained a variety of names from a peculiar habit it has—"heather-bleat" in Scotland, "moor-lamb" in Lincolnshire, "horsgök" in Denmark, "hrossagaukr" in Iceland (both of which last mean "horse-cuckoo"), "chevre-volant" in France, "himmelsgeiss" in Germany—all gained by what we call the "drumming" of the Snipe, the singular neighing or bleating sound which it makes on the wing in the breeding season. When so doing, the bird, presumably the male, flies in large circles, at a considerable height. There are two stages in the performance: during the first movement the bird gradually ascends with full wing-strokes, and quite silently, or uttering at intervals the usual note it does when flushed; in the second movement it gradually descends, with short tremulous beats of the wings, accompanied by the loud bleating, or drumming sound, which is audible at a great distance, even when the performer is so high in the air as to be invisible; after a few seconds the rapid ascending movement is repeated, then the descending bleat, and so *da capo* for an hour or more. I cannot perceive that the noise is uttered more commonly when the bird is flying against the wind, or with it—there seems to be no difference in this respect, and I watched a bird in the Cambridgeshire fens last year with the special object of observing this—it certainly drummed in *any* part of the large circle it was describing, sometimes head, sometimes tail, towards the wind. I have mentioned this thus precisely because Abel Chapman states that the Snipe drums head to wind only ("Bird-Life of the Borders," p. 28-9). Opinions differ widely as to the means by which this curious sound is produced. Meves declared that the tail feathers were the instrument, and claimed to have produced it artificially by the Snipe's tail feathers fastened to the end of a long stick and swung through the air. Others hold that the tremulous motion of the tense wing-feathers is the agency; a third theory is that the sound is vocal. The reader is at liberty to take his choice. I incline to the last, from analogy. I have seen the Great Snipe go through exactly the same evolutions at the nest, including the tremulous wings on the descending movement, and in perfect silence; I have watched the Wood, the Green, the Broad-billed Sand Pipers, the Kentish Plover, Temminck's and the Little Stint, and the Red-necked Phalarope, go through the same movements also, at the nest, but in these cases the noise which accompanied the descending stage of the performance was unmistakeably vocal.

With regard to the migrations of Snipe, it is difficult to say much that is precise, for they seem to be guided by the weather at the time, and by no

JACK SNIPE ♀ ⅞

particular laws. Snipe suddenly leave their usual haunts for no apparent reason, and as suddenly reappear. The moon affects their movements to some extent, and they are undoubtedly more erratic when that luminary is at the full. Also at such times they often lie better to the gun, partly, perhaps, because they may have been feeding hard all night and are lazy—partly, because they may have been travelling all night, and are tired. They appear on the Yorkshire coast in small numbers, about the third week in August, but whether from the inland moors (as seems probable, for I have observed that they generally leave the moors about the end of that month, and are scarce for awhile), or from abroad, I cannot say; but they are nearly all birds of the year.

Family—SCOLOPACIDÆ.

JACK SNIPE.

Gallinago gallinula, LINN.

VARIOUS reports to the contrary notwithstanding, the Jack Snipe has never been proved to have bred in our islands, though it is a common enough winter visitor in suitable localities, and has been known to remain in Britain till, or even through, the breeding season. It has not yet been found in the Færoes or Iceland, but breeds in the northern parts of Scandinavia, Finland, and Russia, becoming decidedly rarer to the east of the Urals. It must, presumably, breed as far east as the Pacific coast of Asia, having been a dozen times or more obtained on migration in Japan, and once in Formosa, but never, as far as I am aware, in any part of China. It winters in the countries bordering the Mediterranean, in Palestine, Persia, Afghanistan, India, Burmah, and Ceylon. Elsewhere in Europe it occurs on migration, remaining as long as the weather keeps fairly open, but in continued frost moving further south. In the milder southern and western parts of our islands it may be called a winter resident.

Description of the adult. A small copy of the Common Snipe, with the following differences: there are two notches on each side of the posterior margin of the sternum (breast-bone), the Common Snipe having one only; the crown is plain dark brown in colour, instead of light brown with two broad dark stripes over the eye; the creamy buff external margins to the scapulars are much broader, and are arranged so as to form four conspicuous light stripes down the back; the shoulders and back have, especially in the early part of the year, a good deal of beautiful green and purple sheen upon the dark part of the feathers; tail feathers twelve only, instead of fourteen; legs grey, greenish at the joints. Length $7\frac{1}{2}$-$8\frac{1}{2}$ inches, closed wing $3\frac{7}{8}$-$4\frac{1}{2}$. Females are rather duller in tints than the males. Young birds have less of the purple and green reflections on the back.

Nestling: "Upper parts richly varied with deep rufous and black, and dotted here and there with white; a buffy white streak passes from the forehead over the eye; below this is a dark brown streak covering the lores to the eye; from the base of the lower mandible another white streak passes below the eye, and also one from the chin (which is buffy white) along the side of the head to the nape; under parts dark reddish brown, slightly varied with blackish brown; bill and legs much developed." (Dresser: "Birds of Europe," vii. 654).

John Wolley, the father of British Oölogists, has given us the only satisfactory account of the nesting of the Jack Snipe, and, since the time when he found the nest (1853), I do not know that any Englishman has had the like good fortune, though it has fallen to some northmen (*e.g.* Meves). Wolley describes the nest (Muonioniska, Lapland) as "made loosely of little pieces of grass and equisetum, not at all woven together, with a few old leaves of the dwarf birch, placed in a dry sedgy or grassy spot close to more open swamp." The four eggs closely resemble in colour those of the Common Snipe, and measure $1\frac{1}{2}$ inch by a shade over one inch in breadth. Like those of many Limicoline birds, they are very large for the size of the bird, and the set of four together weigh over $1\frac{1}{2}$ ounce: while the bird itself only weighs about two ounces. The eggs are laid about the middle of June.

A much less shy bird than the Common Snipe, mostly found singly, and not rising therefore in flocks (or "whisps") as it is the aggravating habit of the other to do—out of gun range. Neither is it affected so much by wet windy weather, which makes the Common Snipe unapproachable; and it rises silently. We are all acquainted with the "sportsman" who got a whole winter's shooting out of one Jack Snipe, which was always to be found in the same place when wanted, and his lament when he injudiciously took a more skilful friend to the spot, who killed the Snipe. However apocryphal, the story gives a good idea of

RED-BREASTED SNIPE ♂ ¾ ♀ JUR.

the Jack's habits. It is, however, less difficult to shoot than the "full" Snipe, as the Common Snipe is often called; it usually rises well within range, and flies less erratically. Moreover, as is well known, the Jack is never thin. When a long frost has reduced the full Snipe to skin and bone, a Jack's bones are always comfortably covered. This is probably due to its particular affection for springs, and little running drains, which rarely freeze. Jack Snipe begin to appear with us about the middle or end of September, and leave in April; some few, as above stated, remaining later, or even through the summer, but this is very exceptional. The food of the Jack Snipe consists of small insects, larvæ, &c.; it feeds chiefly in the evening and early morning, and I have very rarely found anything recognizable in the digestive canal, from only having dissected Jacks shot during the day; the digestion of birds, it should be remembered, is a very rapid process. The Jack Snipe at its breeding grounds goes through the same aerial manœuvres as the Common Snipe, the sound produced being compared by John Wolley to "the cantering of a horse in the distance over a hard hollow road"; elsewhere he calls it a "remarkable hammering noise." Very few of us have "been there," or have any materials for forming an opinion whether this noise is vocal or instrumental. Wolley's account (see Hewitson's "Eggs of British Birds," vol. ii, p. 356) is well worth looking up.

Family—SCOLOPACIDÆ.

RED-BREASTED SNIPE.

Macrorhamphus griseus, GMEL.

AN American occasional visitor to our shores, one of a group of Sandpipers closely allied to the genus *Totanus*, but which have an accidental (or perhaps functional) resemblance in their bills to the Snipes, and which Seebohm named therefore the "Snipe-billed Sandpipers." The present species (which is called

across the Atlantic, according to its state of plumage, the "Red-breasted," the "Brown," and the "Grey" Snipe) breeds in the far north of the American Continent, ranging to Greenland. It is possibly due to the fact of its occurring in the latter, that it is met with so frequently in Western Europe, there being undoubtedly a considerable migration of birds from thence south-eastwards. About a dozen undoubted examples have been obtained in England (chiefly in early autumn), one or two in Scotland, and two in *Ireland; it has also been shot in Western France.

Description of the adult (Alaska, 6, 5, '69, e mus. H. E. Dresser): bill long (2¼-2½ inches), nearly black, broadened at the tip, and resembling that of the next species; crown, shoulders, secondaries, nearly black, the feathers margined with rufous, and tipped faintly with white; wing-quills sooty, the first primary, only, with a white shaft; feathers of back white, with black centres; tail and tail-coverts white, barred with black and tinged with rufous; sides of head (except the brown lores), neck, breast, and under parts, rufous, spotted (except on the belly) with brown; axillaries white, barred with black; feet (the toes connected at their bases with a web) light olive. Length 11 inches, closed wing 5¼-5½.

In winter, the black above and the rufous below is lost, and the bird, as Saunders aptly says, suggests a big Dunlin in winter dress with a Snipe's bill (except in the black and white tail and under tail-coverts). But it may be distinguished at all seasons from any Snipe by its partially webbed feet, white shaft to the sooty first primary, black and white rump and tail. (N.B.—In winter the rump gets to look nearly pure white, owing to the black centres being obscured by the broad white margins of the feathers).

It breeds in marshes, laying its four eggs in a hollow on the top of a tussock. As it breeds in the extreme north, its nest has seldom been taken. The American expedition to Point Barrow, Alaska (see Murdoch, "Report on Birds" in General Report) ascertained that both sexes of this bird incubate, as evidenced by bare hatching spots on their breasts, but they did not actually find the nest. It feeds, like Snipe, by probing the mud for worms, etc., the bill shewing the same arrangement of sensory pits in the bone near the tip, as has been alluded to in the case of the Woodcock and true Snipe. This seems to be a foolishly tame bird, and is only shot by "greedy gunners" (Elliott Coues) or those whose dinner depends on their gun—or by those who are in need of specimens. It seems to be a very silent bird also, merely uttering occasionally a "weet." Dresser ("Birds of Europe," vol. viii, p. 188-90) gives some good field notes.

* "Zoologist," 1893, p. 433 and "Zoologist," 1894, p. 63.—H.A.M.

BROAD-BILLED SANDPIPER ♂

Family—SCOLOPACIDÆ.

BROAD-BILLED SANDPIPER.

Limicola platyrhyncha, TEMM.

IT has always seemed to me that this bird and the last are very closely related; there is a very great similarity in the bills, in the summer plumage of the upper parts, and in the habits; both have four posterior notches to the sternum and the sterna closely resemble one another.

The Broad-billed Sandpiper is readily distinguished by its beak, which is wider laterally than perpendicularly. It is another of the birds which would naturally be expected to occur oftener in Britain than is the case, as it breeds not uncommonly in the swamps of Norway. Only seven undoubted records of its occurrence with us are extant, however, while no less than fifteen at once have been met with on Heligoland (Gätke, "Heligoland, etc." p. 508). It has not been met with in Iceland or the Færoes, but breeds, as has been mentioned, on the fells of Scandinavia down to about lat. 61°, in Finland, Northern Russia, and probably across Northern Asia; but direct evidence of this is wanting, except at Lake Baikal (Dybowski), and the sea of Okhotsk (Middendorf). On migration it passes through Denmark in some numbers, and Central Europe (but is rare west of a line drawn from the west of Denmark to Italy). It winters in the Mediterranean basin and Eastern Africa down to Madagascar. It passes on migration through Central Asia, not uncommonly down the China coasts, whence I have seen a dozen or more specimens; and is found in winter on the coasts of India, Ceylon, the Andamans, Burmah, the Malay Peninsula, Java, and the Philippines.

Description of adults in summer (♂ ♂ ♀ ♀ Dovrefjeld, June, 1882). Bill about 1¼ inches long, dark brown, higher at the base, flattened out laterally towards the end; iris dark brown; crown rich dark brown; sides of head buffy-white, with a dark brown stripe from bill to eye, and another some distance above the eye; upper parts generally of the same dark brown as the crown, with higher margins to the feathers; these, on the shoulders, are rusty, on the scapulars and wing-coverts buffy-white, on the tertiaries, where they are very conspicuous, rufous; primaries nearly black, with white shafts, the first the longest; central tail-feathers (and their coverts) black, narrowly edged with rufous, the rest grey, edged with

white; chin, throat, sides of neck and breast, white, with brown streaks and spots on the centre of the feathers; rest of under parts, including axillaries, white, with a few dusky streaks on the flanks, thighs, and under tail-coverts; legs and feet dusky brown, greenish at the joints. Length 6½-7 inches, closed wing 4$\frac{1}{10}$. The female has a tendency towards white on the margins of the back feathers; otherwise the sexes are alike.

Young birds have much greyish-white on the upper parts.

Winter plumage closely resembles that of the Dunlin, being white below, with a tendency to dusky on the throat, and grey above with darker centres to some of the feathers; nothing of the summer chestnut remains. The cubitus (forward angle of the wing) is black, however, as in the Sanderling, so conspicuously so, that there ought to be no difficulty in distinguishing this bird from a Dunlin, even on the wing at some distance. (The above from birds shot at Foochow, 28, 10, 1886).

Nestling: upper parts black, dotted with white, and marked with chestnut on the sides; sides of head and under parts greyish-white; several dusky lines on the side of the head; throat buff-tinted.

I have not had the fortune to find this bird's nest in Norway, though I was on the Dovrefjeld at the proper time of year, but the season was a backward one. One of the females I prepared had probably laid one egg, however, the others most certainly had not; this was the first fortnight in June. My friend Mitchell found the eggs in the same locality on June 15th. Dann and Wolley speak of the bird as a late breeder, and the former gives June 24th, the latter "the third week in June," as the time to find eggs; Abel Chapman, "mid-June." Probably the date varies a fortnight or more, according to the season, and the amount of snow on the fells. The nest is placed on a low sedge-clothed hummock, in an open grassy part of a mountain marsh. The nest-hollow is deep (for a wader) and is lined with dry grass; but individuals which are aware that they lay comparatively dark coloured eggs, use (Mitchell, "Zoologist," 1877, p. 204) withered willow leaves instead of grass, or, more probably, add them after the eggs are laid. Eggs four, stone-buff to brown in ground colour, mottled and spotted with "neutral tint" and dark brown; length 1¼ inch by $\frac{9}{10}$, or a shade more. The incubating bird (I can find no information as to sex) sits very close, and only leaves the eggs when nearly trodden upon; sometimes it runs off, sometimes takes wing.

I give the following extracts from my note-books, not because I think them more interesting than those of better authorities, who have had opportunities of observing this bird, but because I hold that the less a work like the present is made up of a hotch-potch of quotations, the better.

PECTORAL SANDPIPER ♂ ¾

"Broad-bills" frequent grassy and sedgy parts of the mountain swamps, never bare muddy places, but where the ground is neither very wet, nor the vegetation more than three or four inches high, and where the conditions are such that an ordinary man's foot sinks a couple of inches into the soil at each step. Broad-bills lie very close, usually, rise with a low, shrill whistle, and, early in June, are almost invariably in pairs; in wet and windy weather, however, like most other birds, they become very wild, and I have seen them at such times go through exactly the same performances as a drumming Snipe, the alternate descending motion, with quivering wings, being accompanied by a high tremulous whistle. They are tiresome to shoot, as they have a perplexing way of rising at one's feet in a great hurry, and flying off very swiftly as if they meant to go for miles, and then, just as they are at the proper distance to shoot, dropping down suddenly like a stone, causing your shot to fly harmlessly over their heads. I cannot say much as to their food; I have never found anything but indistinguishable "mush" in the digestive canal; but the food almost certainly consists of larvæ, small beetles, and flies. On migration Broad-bills appear to frequent fresh-water lakes, pond, and marshes, or salt-water ponds near the sea (as the Phalaropes do), in preference to the edge of the waves, or the bare "clays." They usually travel in very small parties.

Family—SCOLOPACIDÆ.

PECTORAL SANDPIPER.

Tringa maculata, VIEILL.

NO purely American bird, probably, wanders more frequently to our coasts than this. A score, or more, of undoubted occurrences are known in England, in Scotland two or three, in Ireland one. It breeds in the arctic regions of the American Continent, including Greenland, whence, probably, come most of the stragglers to Europe. It passes in autumn and spring along the North American coasts and through the West Indies, wintering in South America down

to Patagonia (Durnford), but more abundantly on the Atlantic than the Pacific coast.

It bears a general resemblance to the Dunlin, and is of about the same size. Both have sharp-pointed tails, (*i.e.*, the central pair of tail-feathers are the longest, and the outermost pair the shortest) and therein differ, in company with *T. acuminata* and *T. fuscicollis* from the rest of the Tringas. This bird may be separated from the Dunlin by its light coloured legs (which are light yellow-brown, instead of black), longer hind toe, much smaller amount of white on the secondaries (only the narrowest white margin on the inner web, while the greater part is white in the Dunlin), and by the colour of the lower neck and breast. In the Dunlin these are brown (greyish in winter) and very little darker than the chin and throat, and are streaked slightly along the shafts of the feathers with rather darker brown; in the present species the lower neck and breast are noticeably darker than the upper part of the neck, forming a conspicuous pectoral band, (whence the name *pectoralis*, no doubt), which in older birds is marked with dark sooty-brown arrow heads (⟑), the long middle line corresponding with the shaft of the feather; in young birds the markings are merely equally dark shaft-stripes. The Pectoral Sandpiper never puts on a black breast in summer, and, therefore, never shows traces of it in autumn; below the pectoral band, or belt, the under parts are pure white at all seasons. Length, males, about $8\frac{1}{2}$ inches, closed wing $5\frac{1}{4}$ to $5\frac{1}{2}$. Females are $7\frac{3}{4}$ to 8 inches long, wing $4\frac{3}{4}$ to 5.

The nest was long unknown, and was first found by the U.S. Expedition to Point Barrow, Alaska, in 1882-3. The nest is amongst grass, a preference being shown for high and dry localities, such as the banks of gullies and streams, never in the swamps. The eggs are drab, or greenish-drab, in ground colour, blotched with umber-brown, and measure 1·5 by 1·1 inch.

The Pectoral Sandpiper frequents wet grassy meadows, ponds, and flats. In some respects it is Snipe-like, and never flocks on the sea-beach with the smaller Sandpipers. (N.B.—the young birds muster in flocks in the breeding quarters before leaving for the winter). At times it has a towering flight like that of a Snipe. At pairing time the male has the power of inflating the throat like a "Pouter" Pigeon; it forms "a swelling which hangs like a great goître on the breast"; at such times he murmurs "hoo-hoo" like a domestic Pigeon making love; at other times the note is an ordinary Sandpiper "wit-wit." The food consists of insects principally, especially small beetles.

The above details are mostly from Elliott Coues' "Key to North American Birds" (1884), and Murdoch's "Report on the Point Barrow (Alaska) Expedition" (Birds).

Family—SCOLOPACIDÆ.

SHARP-TAILED SANDPIPER.

Tringa acuminata, HORSFIELD.

AN example of this bird was shot near Yarmouth, in August, 1892 (see "Ibis," 1893, p. 181, and figure); another was in the Norwich Museum previously, but some doubts were thrown on its history. The Sharp-tailed Sandpiper is closely allied to the American Pectoral Sandpiper and to our Dunlin. It breeds in Mongolia and Eastern Siberia, passes through the Japan and China coasts and the Malay Archipelago on the autumn and spring migration, wintering in Australia and New Zealand. It varies a great deal in size (my series from China measure from $8\frac{1}{2}$ in males to 7 inches in females, and the wing correspondingly from $5\frac{3}{8}$ to $4\frac{3}{4}$). Roughly, this species resembles the Dunlin in summer plumage, except in having no black pectoral gorget. On the upper breast and sides of the body adults have brown marks of the shape of a wide arrow-head (⟑), which will separate them from any allied bird except the Pectoral Sandpiper, and the feathers of the tail are much graduated in length, the central pair (which are dark in colour) being more than half an inch longer than the (light grey) outside pair. The legs also are light greenish yellow, in the Dunlin black at all seasons. Like the Pectoral Sandpiper, which is only the representative form in the New World of this species, this bird has also a considerably longer hind claw and longer tarsus than the Dunlin.

From the Pectoral Sandpiper it may be distinguished by the ruddy colour of the upper parts. Most of the feathers of the crown, shoulders, scapulars, and secondaries are broadly bordered with chestnut. Even in winter dress this remains on the crown, and traces of it on the shoulders, secondaries, etc., the rest being replaced by buffy-white, equally broad. In *T. pectoralis* the feathers of the same parts are *narrowly* bordered with reddish-buff, which leaves a much larger area of sooty centre to each feather, and therefore gives a much darker general shade to the whole of the upper parts. Also the chin and throat of the Sharp-tailed Sandpiper do not contrast with the lower neck and breast in being unspotted, but are dotted with round sooty spots, which do not take the form of stripes. These differences sound minute, but, though difficult to make them plain in words, they

are sufficiently perceptible to the eye when comparing examples of the two birds.

I am not aware that anyone has actually seen the nest or eggs of this bird.

Family—SCOLOPACIDÆ.

DUNLIN.

Tringa alpina, LINN.

THIS bird, dearly loved of the cockney shore-gunner (though what he shoots it for is hard to divine, unless he has an idea that the killing of so many "brace" constitutes him a "sportsman") is a very abundant bird on our coasts in autumn and spring. It is called additionally the "Purre," "Oxbird," "Sea Snipe," "Sea-lark," and "Stint." These are conveniently elastic names, and (except the first, which seems to have gone out of use) can be made to include Sanderlings, Curlew Sandpipers, Ringed Plovers, and the small waders generally. But this species, as the most abundant and most unsuspicious, oftenest seems to find its way into the shore-gunner's bag, and seems, by right of user, to have the best title to the terms. It is a bird of wide range, breeding throughout the northern and central parts of Europe, Asia, and America, wintering in all but the northernmost parts of them, and, in addition, in North Africa down to Somaliland, India, South China, and America down to Panama. In the "British Museum Catalogue of Birds," (Vol. xxii) the Eastern Asiatic and American Dunlins are separated from the rest under the title of *Pelidna americana*, on the score of size. In Britain the Dunlin breeds in most mountainous parts, but more abundantly northwards. In the south it has been found nesting in Cornwall, Devon, Somerset, Wales, Cheshire, Lancashire, Yorkshire, and Cumberland; the eggs have also been taken in Lincolnshire. I have not uncommonly, when fishing, seen Dunlins on the moors of South Northumberland, which I had no doubt were breeding; and they

♂ JUR. ♂ WINTER DUNLIN ♂ $\frac{7}{8}$ SUMMER

breed on and near the Cheviots most certainly. In Scotland they nest in most suitable localities, especially on the islands; in Ireland only in the north.

Description of adult in summer: bill black; iris dark umber; upper parts generally rufous, mingled with creamy-white, each feather with a black centre, which is not conspicuously shewn in the feathers of the back and tertiaries; no rufous on the back of the neck; wings grey-brown, with light grey margins to the feathers and a good deal of white on the secondaries; chin white; sides of head, neck, and upper breast, white, spotted and streaked longitudinally with black, most boldly on the breast; rest of under parts white, with a large black gorget on the lower breast, somewhat in the form of a horse-shoe; a few black streaks on the flanks; tail grey, the two central feathers browner and darker than the rest; feet and legs black. Length $6\frac{1}{2}$-$7\frac{1}{2}$ inches, closed wing $4\frac{1}{4}$-$4\frac{5}{8}$.

In winter plumage the upper parts are without a trace of the summer rufous, and are light brownish-grey, with rather darker centres to the feathers; wings as in summer; under parts white, with a grey tinge on the sides of the neck and breast, the feathers of these parts having dark bases which shew very little, unless rumpled.

Young birds in autumn have the upper parts somewhat like the adults in summer, but the red is less intense, and the buffy-rufous and creamy-white margins to the feathers, being new and of maximum length, overpower the dark centres of the feathers to a greater extent. The sides of the neck and breast have a rusty tinge, and are streaked obscurely with black; rest of under parts white, streaked and spotted with black.

Nestling: rufous above, grey-white below; three longitudinal black streaks on the crown, which meet behind and vanish, to reappear on the back. Legs and feet dusky yellow-brown.

N.B.—There is a small bright-coloured race of Dunlins, which has been described by Brehm (who was fond of describing) as *T. schinzii*, a name which Bonaparte had previously given to the next species. They shew a slight difference from the normal Dunlin in their habits, seldom being found in large flocks, but singly or in pairs, and frequenting by preference the salt or brackish drains and ditches on the flatter parts of the coast. This smaller race is usually considered the southern form, but I have an example from Iceland. There are similar races, as has been mentioned, of the Ringed Plover.

The Dunlin breeds with us, usually, in mountain marshes, but, like many other birds, the further we get towards the Pole, the lower the average elevation of the nest; so that birds which, with us, nest on high fell tops (as the Golden Plover and Dotterel) in the far north, are found breeding on low grassy flats only

a few feet above the sea and quite close to it. The nest of the Dunlin is usually in a tussock of grass, a roughly made hollow, inartistically lined with grass, but often carefully concealed in the herbage. Four eggs are the full number (but I have known three to be incubated), much pointed at the small end, varying from pale greenish-buff in ground colour to brown-buff, boldly dashed with neutral tint and rich dark umber-brown, mostly at the larger end. The young birds, like those of nearly all waders, can run almost as soon as they are out of the egg, and the old birds are very solicitous about (incubated) eggs and young. I have shot birds of both sexes off the eggs.

It is usually a tame and confiding little bird, till persecuted and shot at. I have had them nearer to me than the end of my rod, on the burns of the Northumberland moors and upper Clyde. On our shores they are usually nearly as tame early in the autumn. Huge flocks are to be seen at that season, feeding on the exposed mud at low water, or flying in graceful curves—looking like a distant curling cloud of smoke—now white, when the under sides are turned to the spectator—now, on the other tack, dusky. Some of these flocks number several thousands of individuals, and are largely composed of young birds, for the Dunlin remains *en garçon* longer than most waders, and does not attain mature plumage till the second spring. Dunlins probe the mud like Snipe for the concealed good things that lurk below, and feed on any small marine creatures or worms. At high tide they may be seen on the sand, tripping prettily backwards and forwards with the advancing or retreating wavelets, and picking up the minute crustacea, etc., as the water leaves them. They are often shot, which seems a pity, as they cannot be said to give any sport. Some seem to consider it "sport," however, to rake a flock of Dunlins on the ground, with no other purpose than to see how many completely innocent lives can be uselessly taken with one charge of shot. If they were of any use when shot, there would be some justification, but the Dunlin is not a delicately flavoured bird for the table, and there is nothing of him. I once had the misfortune to kill a dozen and a half, in order to secure a Curlew Sandpiper in three-quarter summer dress—and I ate them, in a pie, as a duty, but have never wanted to regale on Dunlins again.

The note of the Dunlin is a shrill, unmusical, monosyllable; at the nest they occasionally utter a pretty little trill.

♂ Autumn. Bonaparte's Sandpiper ♂ ⅘

Family—SCOLOPACIDÆ.

BONAPARTE'S SANDPIPER.

Tringa fuscicollis, VIEILL.

AN American "stray" which has occurred a dozen or fifteen times in the S.W. of England, the most eastern occurrence having been in Middlesex, the most northern in Shropshire, and the bulk from Cornwall, Devon, and the Scilly Islands. One in Belfast Museum was probably obtained in the neighbourhood. Considerable confusion has resulted from Brehm's applying to the small race of our Dunlin (as already mentioned) the name *T. schinzii*, which Bonaparte had eight years before given to the present species.

Bonaparte's Sandpiper is a bird of Eastern North America, seldom found west of the Rocky Mountains, though it has occurred in Alaska. It breeds in the American high north, from Labrador northwards, its breeding range extending from the Mackenzie River to Greenland; our British examples, and one reported from Iceland, have probably come *viâ* Greenland. With the exception of one shot in Franz Josef Land, (see "Ibis," January, 1898, etc.,) none have been obtained on the Continent. On migration it passes through the Eastern and Central States, wintering in the whole of South Ameriea.

There is a convenience in classing this bird with the group of pointed-tailed Tringas (the three foregoing species), as its central feathers are more than a quarter of an inch longer than the external ones, and the bill is very Dunlin-like. But it has equally often been classed with the Curlew Sandpiper, which it resembles in its white upper tail-coverts. Seebohm called it the "American representative of the Curlew Sandpiper." It never puts on a red breast, like the latter, however, nor a black one, like the former.

The upper parts shew the same combination of colours as those of the Dunlin in summer; this species shews little seasonal difference in the upper parts beyond an additional "sandiness" in summer. The feathers of the upper parts are dark brown, with light tawny-buff and grey-buff edges; in autumn the grey-buff vanishes, or becomes more ruddy. No white on the secondaries except a narrow external border. The under parts are white at all seasons, the sides of the head, upper breast, and sides of the body being spotted with sooty on a white ground

in summer—streaked with sooty on a light grey ground in adult winter—with fulvous-grey in the young autumn and winter dress. The distinguishing mark, however, is the white upper tail-coverts (there are a few dusky streaks, but only on the lateral ones) by which this bird may be instantly known, even on the wing, from any bird of its size and class, except the Curlew Sandpiper. The length of the bill in the latter ($1\frac{1}{2}$ inches) will prevent its being confused with Bonaparte's Sandpiper, in which the bill seldom attains 1 inch in length. Total length $7\text{-}7\frac{1}{2}$ inches, closed wing $4\frac{1}{2}\text{-}4\frac{3}{4}$.

The eggs have only been found in the "barrens" of the American far north, and are four in number, ruddy-drab in ground colour, boldly blotched with dark brown, measuring $1\frac{3}{8}$ by barely 1 inch. The nest is a simple hollow, lined with a few dead leaves. The bird frequents rocky shores in autumn and spring, according to Dr. Coues, and feeds on insects, small marine crustacea and worms, and is very tame; its note is a "weet."

Family—SCOLOPACIDÆ.

LITTLE STINT.

Tringa minuta, LEIS.

THE present is another of those birds whose eggs and nest were, until comparatively recent years, a complete mystery. It is well known now that there is a general rule that birds which breed furthest north are found latest on our shores in spring, reappear earliest in autumn, and go furthest south to winter. They remain late in spring, of course, till the late arctic spring shall have set in, and return early because of the early northern winter; but it was formerly supposed that these movements were dictated by quite an opposite reason to the

♀ Autumn LITTLE STINT ♂ 7/8 Summer

true one, *i.e.*, because they could not have far to go. Von Middendorf has been held to be the first naturalist who had the good fortune to gaze on the eggs of the Little Stint (he found them on the Taimyr River, 70° N, on June 17th, 1851). But as he speaks of them exactly like "those figured by Thienemann," it is evident that *vixere fortes ante Agamemnona.* In 1875, Seebohm and Harvie-Brown took the eggs on the Petchora (in Europe), since when they have been obtained near Archangel (Henke), Northern Norway (Collett), Kara Gulf (Finsch), Kolguiev (Trevor-Battye), and by our party, in 1895, on the same island. The Little Stint breeds from Northern Norway to the Taimyr Peninsula, east of which it is replaced by two allied species (*T. ruficollis*, with a bright chestnut head and neck in summer, and *T. subminuta*, with a longer, light yellow-brown leg and foot, and long toes). The present species may breed in Novaya Zemlya (we did not see it there), but all its known breeding places, which are rather sporadic and local, are on the shores of the Arctic Ocean. It passes southwards early in autumn (my note books give August 22nd, '88, August 22nd, '89, August 30th, '92, for the Yorkshire coast, as the earliest I have met with), being very much commoner on our east coasts than on the west. It passes overland as well, through Europe and Asia, wintering in Africa, down to the extreme south, Palestine, Arabia, India, and Ceylon.

Description of adults in summer (Kolguiev, E. Finmark, Russian Lapland, ♂♂♂♀♀): bill black; iris umber-brown; sides of head, and upper parts generally, of a warm rufous, caused by broad margins of this colour on all the feathers, which on the crown, scapulars, and tertiaries, have black centres, and on the scapulars small white tips; primaries, secondaries, and greater coverts, dusky grey-brown, with white shafts and obscure white tips; four central tail feathers black, with rufous margins, the rest grey, greyer towards the outside, but never white; throat white; chest rufous, mixed with white, with dark grey centres to most of the feathers; rest of under parts white; legs and feet black. Length 5½-6 inches, closed wing 3¾; female a shade the largest.

In autumn adults are darker on the back, owing to the chestnut edges of the feathers being lost, and lighter underneath, owing to the rufous and dark spots having vanished.

In winter the upper parts are ashy brown, with scarcely a trace of rufous left; a broad white eye-brow; under parts pure white.

Young take the autumn dress of the adult, but have broad white tips to many of the feathers of the upper parts, especially scapulars, and the upper breast tinged with dusky.

Nestlings are mottled with rufous and black down . . . . tips silvery white or

sandy-buff; crown nearly black, with a buff collar; a black spot on lores, ear-coverts and hinder crown; under parts whitish, with a shade of buff on the lower neck (Sharpe, B.M.C.).

For the distinctions between this bird and Temminck's Stint, see the description of the latter.

Of the fifteen nests we found in Kolguiev, in 1895, all were but little above high-water-mark, and none higher up the river Goubesta than tidal reach. Some were amongst grass and rushes on the marshy river flats; some in the middle of a patch of dwarf willow, six inches high, on the banks bordering the flats; one only amongst grass on the flat tundra above the banks, perhaps half a mile from the river, and fifty feet above it. The nests were mere hollows, lined with a few dead leaves of a small-leaved willow, or vaccinium, and scraps of grass, with a few white feathers, probably off the parents' breasts, as they revolved in the hollow to smooth it. The eggs varied a good deal in ground colour, viz: from pale green, through cream-buff, to pale brown, blotched with sepia; measurements 1 to 1$\frac{1}{16}$ by $\frac{3}{4}$ inch. Some of the eggs we took cannot be distinguished from those of Temminck's Stint, Mr. Seebohm's dictum to the contrary notwithstanding. Indeed, where both birds occur, Little Stint's eggs can only be identified satisfactorily by shooting the bird. Both sexes incubate, but the male is usually more in evidence, according to our experience; Mr. Trevor-Battye, however, found that five out of the seven he obtained, with eggs or young, were females. The birds are absurdly tame—indeed, painfully tame—at the nest, one poor little creature came and sat down repeatedly in the empty nest, wondering what could have happened to the eggs, while they were being blown, and a party of three men sitting, within a yard; then it went through a pitiful little pretence of picking up scraps of food, almost amongst our feet. But it was only the fourth nest we found, and we had come some thousands of miles on purpose. I see that my comment in my log on the whole proceeding was, "ornithologists ought to have no bowels whatever"; I can truthfully say that mine were much in the way. At other times the birds went through curious antics and capers, quite different from the usual paralysed crawl, to try (vainly, I am afraid) to attract attention from the precious eggs.

Little needs to be added on the habits of this bird. It is to be found on our coasts between the end of August and the end of September—and, in much smaller numbers, in May and June—usually in small parties of two, to six or eight, but in Norfolk it appears to collect in much larger flocks; this is preparatory, probably, to leaving our shores altogether, as south of Norfolk and Suffolk it becomes a rarer bird. At times it associates with Dunlins and Sanderlings, and I have seen two Little Stints amongst a party of Godwits. It is usually very

tame, and seems to prefer small brackish and salt pools above high-water-mark, or pools left by the tide, to the edge of the waves. We never get it in full winter plumage in Britain. Its food consists of very minute insects and crustacea, such as entomostraca and the smaller amphipoda, with minute worms, etc. Seebohm speaks of it as feeding on mosquitoes at the mouth of the Petchora, but I never found either the adult insect (unpleasantly plentiful there) or the larvæ amongst the contents of this bird's œsophagus in Kolguiev. One I skinned there had recently taken a crane-fly, four small beetles, one caddis fly *(phryganea)*, and a number of small, white, semi-transparent larvæ, which feed in the willow buds; these, no doubt, had been picked up near the nest, independently of the real feeding time—a sort of *hors-d'œuvre*. It is a very silent bird, uttering a low double "cheep" in a high key, on the wing; the bird so tame at the nest, mentioned above, never uttered the ghost of a note.

Family—SCOLOPACIDÆ.

AMERICAN STINT.

Tringa minutilla, VIEILL.

THIS bird has thrice occurred in autumn as a casual vagrant on our coasts, once in Cornwall, twice in Devonshire.* It breeds from Labrador to Alaska, and winters as far south as Brazil. It is doubtful whether it ought not to be united with *T. damacensis*, Horsfield, (*subminuta*, Middendorf), which breeds in Eastern Siberia, and winters in Australia. The American Stint can be separated from the Little Stint by its longer bill ($\frac{7}{10}$ inch long, as compared with $\frac{5}{10}$), and longer legs and toes (the middle toe and claws measuring $\frac{8}{10}$ inch, while in the

* The latest occurrence of the American Stint, in Britain, is identical with a specimen shot on the mud-flats of the Northam Burrows, by Mr. W. B. Hawley, August 16th, 1892 ("Zoologist," 1892, p. 411).—H.A.M.

Little Stint they are little over $\frac{7}{10}$). The legs and feet are also grey-brown in colour, tinged with green at the joints, instead of black. The American Stint is a shade smaller in size and darker in the plumage of the upper parts, and, in summer dress, less rufous above.

Family—SCOLOPACIDÆ.

TEMMINCK'S STINT.

Tringa temmincki, LEISLER.

TEMMINCK'S STINT breeds abundantly in Northern Norway and Sweden, and the Little Stint only in very small numbers. It might, therefore, have been expected that on migration the former would be tolerably abundant with us, the latter rare; the actual case is the exact reverse of this. As well as in Sweden and Norway, Temminck's Stint breeds in North Russia down to 65° N., and Northern Asia as far as the Yenesei. Eastward of this, precise information is wanting, but the bird is found in small numbers on the China coasts in winter, also in the Malay Archipelago, Burmah, India, Ceylon, the Mediterranean Basin (especially the eastern half), and North Africa, down to 10° N. on both sides of the continent. It has not been recorded from Iceland nor Japan. With us, it occurs more commonly in autumn than in spring, and chiefly on the east side; north of the Wash it is decidedly scarce, but from Norfolk to the Isle of Wight it is not uncommon, and goes as far west as the Scilly Islands. As well as on the coasts, it has occurred a good many times inland, by lakes, reservoirs, etc.

Description of adult in summer (♂ ♂ ♂ ♀ ♀ ♀, Northern Norway, Russian Lapland, and Kolguiev): bill black, with a slight green tinge; iris umber; upper parts brownish-grey; the feathers of the crown, shoulders, and back, have dark centres, quite black on some of the scapulars, whilst others have no dark centres at all, giving the back a "patchy" look; grey-brown margins to the back feathers,

TEMMINCK'S STINT ♀ NAT. SIZE

but a few are indistinctly rufous; shafts of the outer primary only white, of the rest nearly as dusky as the rest of the feathers; throat and chin white; sides of the head (excepting a dusky white eyebrow), neck and upper breast, grey, streaked and spotted finely with dusky brown: rest of under parts white; tail brownish, outer pair of feathers white, the rest passing by degrees into the brown of the central ones; legs and feet greenish-grey. Length 5½ to 6 inches, closed wing 3½ to 4.

Adults in winter have lost, by the autumn moult, the black markings on the back, and the upper parts are plain uniform grey, with a brownish tinge and slightly darker centres to the feathers.

Young birds are like the adults in winter, with sandy margins to the feathers of the upper parts, and the upper breast is tinged with tawny and but little spotted.

The nestling is yellow above, mottled and spotted with black, and with silvery white tips; white underneath, with a yellowish brown shade on the chest.

N.B.—Temminck's Stint can be distinguished from the Little Stint by the colour of the legs when fresh, which are greenish-grey instead of black—by the first primary *only* having a white shaft—by the white, not grey, outer tail feathers —by the slightly smaller size—and by the absence of chestnut on the upper parts.

While the Little Stint seems to nest, as a rule, near the sea-shore, so that it can feed on tidal mud, Temminck's Stint haunts and breeds near fresh water, and often far from the sea. This is a general, but not an invariable rule. On the Goubesta River, in Kolguiev, in 1895, we found the "spheres of influence" of the two birds sharply defined. The Little Stint bred, in some numbers, as far up the river as the tide went, but no further; above that limit we found Temminck's nesting, but not below it. When at Lake Yokan (Sviatoi Nos, Russian Lapland) earlier the same year, which is about eight miles inland from the head of the fjord, we found a considerable colony of Temminck's Stint, breeding on small grassy islets. The first nest found contained eggs very like the Little Stint's, which we quite hoped they were until I shot the old bird. We had shot Little Stints on the fjord; but if we had been aware of the rule above mentioned—as I, at all events, ought to have been—we should have been saved from a keen disappointment, because we should not have looked for Little Stints breeding so far inland. The nest of Temminck's Stint is a hollow amongst grass, usually well concealed, and lined with a few bits of dry grass. Four eggs are laid, about mid-summer, very pyriform, varying in colour from pale stone-colour to greenish-buff, mottled and blotched with burnt sienna or sepia. Seebohm says ("Siberia in Europe," p. 275) that "the eggs of the Little Stint can hardly be mistaken for

those of Temminck's Stint, but are in every respect miniature Dunlin's eggs." This statement must be received with caution, as has been already hinted in the article on the Little Stint. We found that the eggs of the two birds cannot be infallibly separated from one another by the ground colour, or any other test; and the only way to be absolutely certain to which species they belong, is to identify the parent. Professor Collett has never shot the female Temminck's Stint off the nest, so it will be well to state that of the three birds shot by us, on June 24th, '95, off the nine nests we found by Lake Yokan (or Ukanskoe), two were males, the third was a female, which was carefully sexed by me by dissection, and is now in my collection. (From A. Chapman's foot-note, to page 295 in "Wild Norway," which has appeared since I wrote the foregoing, his experience would seem to have been similar to my own). The eggs measure $1\frac{1}{10}$ by a shade over $\frac{7}{8}$ inches, being, therefore, a trifle larger, as a general rule, than those of the Little Stint.

The food of Temminck's Stint consists of flies, beetles, and other insects, with fresh water larvæ. As has been stated, it is much more fluviatile, or lacustrine, in its haunts and food, than marine; and this accounts for its occurring so often inland, and for its migration across country, *e.g.*, across Central Europe and Asia. Its ordinary note is a plain shrill chirp, much like that of the Little Stint, Red-necked Phalarope, or Sanderling. But at its breeding quarters it has a distinctive song, which has always attracted the notice of ornithologists. Wolley, who was the first to find the nest (at the head of the Gulf of Bothnia), compares the note to that of the Grasshopper Warbler, a comparison I find singularly inadequate, the only resemblance lying in the fact that both songs consist of a trill. The note of Temminck's Stint, however, is not nearly so monotonous and unvarying—so dry and harsh—as that of the other bird, but is really a very musical little warble. Sometimes it is uttered in the descending phase of a series of manœuvres, like those of a drumming Snipe, but not at so great an altitude, nor in such wide circles—sometimes during short flights near the nest, or on the feeding ground, during which it has a curious and characteristic flutter of uplifted wings, the body being meanwhile stationary for a few seconds in the air, like that of a balancing Kestrel, but the points of the wings close together. Sometimes, but more rarely, the bird utters its pretty song when perched on the top of a boulder, or other elevation. I cannot tell whether the male or the female, or both, utter this prettiest of all Limicoline birds' songs. I watched for an hour, or more, a number of these birds feeding in a small marsh (they were not nesting there, though it was the season for eggs), and during this time one or more would be "vocalising" at the same moment, but I did not care to disturb the party to settle the point.

♂ Jur. Autumn. CURLEW SANDPIPER ♂ ♀ Summer

Family—SCOLOPACIDÆ.

CURLEW SANDPIPER.

Tringa subarquata, GÜLDENSTÄDT.

SINCE the Knot's egg was taken by our American cousins* (and was laid in confinement in the Lilford aviaries), the Curlew Sandpiper has been the only mysterious stranger left—until last year (1897), when Mr. Popham has solved the mystery by the discovery of the nest at the mouth of the Yenesei River.

The name "Curlew," and its Latin equivalent "*Subarquata*," refer to a characteristic of this bird, the comparatively long and decurved bill, visible to the eye, assisted by a field-glass, at a considerable distance.

The Curlew Sandpiper breeds in northern circumpolar regions, the exact limits of its distribution being as yet unknown. When these have been more thoroughly explored, the present species, the Sanderling, Knot, and other comparatively common birds, of which the eggs are still extremely rare, will probably be found breeding in considerable colonies of local distribution. The Curlew Sandpiper winters in Africa, India, Indo-Malaya, and Australasia. Rare in North America (which suggests that its breeding quarters will be found to lie north of Europe and Asia), it has occurred once or twice in the Eastern States, and more commonly in Alaska, and on the west coast. With us it is found chiefly as an autumn migrant, a few old birds, in partial summer dress, appearing in mid-August, and young birds (much the most numerous) about the end of the month, all leaving generally in October. In Ireland a few individuals appear to remain till December. On the vernal, or northward, migration, it is very much rarer with us, though, curiously, is abundant in May in Southern Spain in full summer dress; when it does occur with us in spring, it may be any time between mid-March and the end of June. It has not been known to occur in the Færoes, Iceland, Spitzbergen, or Greenland, though erroneously recorded from the third-named. On the Eastern Asiatic coast, its occurrences are much like those on the Eastern European, except that it is commoner in spring.

Description of adult in summer (♂ Reed's Island, Humber, May, 1886): bill

* Dr. Sharpe states that "there is no authentic egg of the Knot in the United States Museum, at Washington," ("B. B." Vol. III. p. 235).—H.A.M.

black; irides brown; upper parts, including the whole of the head and neck, rich chestnut; the crown, shoulders, and back have the feathers striped centrally with black, and minutely tipped with sandy; scapulars and tertiaries similarly marked and barred in addition with black; wing-coverts grey-brown, with lighter margins and dark shaft-stripes; primaries and greater coverts nearly black, the former with white shafts; rump white, barred with black, and obscurely patched with light chestnut; tail grey-brown, narrowly edged with sandy; under parts rich chestnut, with a few whitish tips to some of the feathers, and a few dusky bars on the flanks and under tail-coverts; under wing-coverts and axillaries white; legs and toes black, with a slight greenish tinge. Length $8\frac{1}{4}$ inches, closed wing $4\frac{7}{8}$.

Adults in autumn (Yorkshire coast, 26, 8, '89) have the ruddy sides of the head, neck, and under parts generally, mottled with white, some of the feathers pure white, some chestnut, with white tips, and the back is similarly mottled with grey-brown feathers, unbarred; the bars on the white rump still visible, but very much attenuated.

Adults in winter are plain grey-brown above, with indistinct darker shaft-stripes; rump and upper tail-coverts pure white, as are the under parts; the neck and upper breast show narrow dusky shaft-stripes.

Young in autumn have grey-brown backs and upper parts, each feather margined with buff or sandy; rump white, also under parts, but the throat and upper breast are more or less fulvous, with dark shaft-stripes.

As has been already mentioned, Mr. H. L. Popham is the only living naturalist who has had the good luck to see the nest of this bird, and with rare generosity (though purposing to write a paper himself for the "Ibis" on the occurrence) he has sent me, since the above was written, the following most interesting details, which I cannot do better than insert verbatim:

"I found the nest on one of the islands near the mouth of the Yenesei River, on July 3rd, 1897. The birds were very scarce there, and this was the only nest discovered, so that I suppose I was on the extreme western edge of their breeding grounds. The nest was a rather deep hollow, in an open space, amongst the coarse grass and reindeer moss, on a slight ridge, somewhat drier than the surrounding 'tundra.' The parent bird behaved at the nest somewhat like a Dunlin, with the exception that, as far as I was able to ascertain, it was silent. The female was sitting on the eggs, which were found by watching the bird till it returned to them."

I can myself describe the eggs, which were exhibited by Mr. Popham at the October meeting of the British Ornithologists' club (1897), and which I had the

opportunity to examine carefully. I do not think that I can convey a better idea of their characteristics than by saying that they are small copies of the Purple Sandpiper's eggs, about the size of those of the Dunlin.

Not a wild or shy bird with us, except in stormy and wet weather, which renders all birds "kittle," as we say in the north, Curlew Sandpipers are seldom met with but on the coast, and in small parties. I do not think that I ever saw more than a dozen individuals together.* They are often single, but not uncommonly consort with other small Waders, especially Dunlins, from which they may be distinguished on the wing by their white rump and slimmer build, with longer and more acutely pointed wings. They are of quicker flight than Dunlins, and it is not difficult to keep an eye on them, when mixed with a flock of the latter bird. They feed on sandy or muddy shores, making their appearance as the tide begins to fall, and following it outwards. Their food consists of minute crustacea and annelids, and, like all small Waders, they will swallow mussel-spat wholesale. Very soon after the tide has turned, they leave their feeding grounds for adjacent marshes, or, failing these, sand-hills or grass fields, where they lie and sleep, till their surprising instinct tells them that ebb tide has come again. It is perfectly wonderful how most of the smaller Waders are aware of this event within a few minutes of its occurrence. The note of the Curlew Sandpiper (with us, there is probably a pairing-note as yet un-noted) is much like that of the Dunlin, little more than a chirp. But it is rarely heard on our coasts, for this is in general a silent bird.

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* Mr. E. Williams states that he met with "large flocks of Curlew Sandpipers" in Dublin Bay, August 28th, 1897. "One flock certainly could not have been less than five hundred strong. It passed quite close to me, the white upper tail-coverts of the birds being very conspicuous, thus easily distinguishing them from the Dunlin when flying," ("Knowledge," May 2nd, 1898, p. 112). But Mr. Williams is probably unique in his experience.—H.A.M.

Family—SCOLOPACIDÆ.

PURPLE SANDPIPER.

Tringa striata, LINN.

AN essentially Arctic bird, breeding chiefly in the high north. According to the more modern views, it is considered to be a bird of the Atlantic shores, the Pacific representatives being separated under the names of *T. couesi*, the ordinary type, and *T. ptilocnemis*, which is supposed to be confined to the Prybilov Islands. Our bird breeds in Greenland, Spitzbergen, Iceland, the Færoes, Northern Norway, Novaya Zemlya and the Taimyr Peninsula, and remains to winter in a good many of these—also in Arctic N.E. America. In our country positive evidence of its breeding is still wanting. Quite young birds, barely able to fly, have been found on the Farne Islands, a very favourite haunt of theirs, and where I have seen them in May. And there is some reason to believe that they breed on some of the islands off the coast of Scotland, especially the Shetlands.

The Purple Sandpiper is a bird of limited range, and does not migrate far from its summer quarters, though a wanderer has been shot in the Azores. In Spain it occurs in winter, and has reached Morocco. On the rest of Western Europe it is not uncommon on rocky shores in winter—also on the shores of E. North America, down to about lat. 30°, and has straggled to the Bermudas. I must take this opportunity of demurring to Mr. Howard Saunders' statement ("Man. B.B." p. 579) that in Iceland, amongst other places, it is the most abundant bird of its genus. In Northern Iceland six pairs of Dunlins will be met with, to every one of the Purple Sandpiper.

Description of adult in summer: bill nearly black, yellow-brown at base; iris hazel; upper parts sooty black with light margins to the feathers, chestnut on the crown, grey on the back of the neck, and a mixture of chestnut, buff, and white on the shoulders; wing feathers sooty with white margins, most conspicuous on the secondaries, some of which are almost entirely white; central tail-feathers dusky, the rest grey; throat dirty white, faintly and minutely speckled with dusky; neck, sides of head, chest and flanks, dusky-brown, streaked with black on the throat, and barred with the same on the breast and flanks;

♂ Autumn

PURPLE SANDPIPER ♂ ¾ Summer

belly white; legs and feet dusky with a yellow tinge. Length $8\frac{1}{4}$ inches: (females sometimes 9), closed wing $4\frac{3}{4}$ to as much as $5\frac{1}{4}$ in females (♂ E Finmark, Collett; ♂ Kostin Schar, Novaya Zemlya, 18, 7, '95; ♀, shot off four eggs, Vathla Heithi, Iceland, 27, 6, '85).

Adults in winter lose the chestnut and white margins to the feathers of the upper parts, which are then uniformly sooty with slightly paler margins of dull grey, and have a beautiful purple gloss which is little seen in the summer dress; sides of head, neck, and breast, dark grey; throat and belly white.

Young birds in autumn are much like adults in winter, but have some white margins to the scapular feathers, and more conspicuous white edges to the wing coverts.

Nestlings: forehead rusty; crown black, mottled with fawn and white, as is also the back; back of neck and under parts nearly white.

Obs.: the Purple Sandpiper may always be recognized by its invariably dark, nearly black, rump, the purple sheen on the back, and white secondaries, which are very conspicuous in flight.

In the extreme north the nest is often quite close to the sea, little above high-water mark. But in Iceland, and at the southern borders of its breeding range generally, the Purple Sandpiper usually nests on the fells. My first nest, from which I shot the female mentioned above, was near the top of a high ridge in North Iceland, nearly sixteen hundred feet above sea level, on a small bare patch of recently uncovered ground amongst snow fields; it was a slight hollow in a withered tuft of *Dryas octopetala*, and rather a substantial nest for a Wader, consisting of a good handful of leaves of *Dryas* and *Salix lanata*, a little short grass, two white Ptarmigan's feathers and a few of the parents'. Collett states that in Finmark the male alone takes care of the young birds, and Abel Chapman has usually found the male at the nest ("Wild Norway," p. 295, footnote). I have no doubt that this is the general rule, but in the nests I have seen (not a great number) I happen to have met with the female only. The four eggs are generally pale grey-green in ground colour, spotted with light neutral tint, and blotched with rich umber brown; occasionally the ground colour is grey buff, or light brown, when they very closely resemble the eggs of the Dunlin; but they are generally a shade larger than these, measuring nearly $1\frac{1}{2}$ inch by 1, or even $1\frac{1}{10}$.

A very silent bird is the Purple Sandpiper, as a rule, uttering occasionally, as it takes wing, or on the wing, a low unmusical "whit-whit." Saxby ("Birds of Shetland") speaks of another note "nearly resembling the loud ticking of a watch." It is essentially a rock bird, and is only at home on rocky shores. I

used to find it plentiful on the Farne Islands in winter, and the rocky parts of the adjacent coasts. It may occasionally be met with on sandy or muddy shores, but in such places is only resting and feeding on its travels, and does not stop long. It is very pretty to watch Purple Sandpipers, at high-water, nimbly dodging the waves as they dash amongst the rocks on which they are feeding; being naturally fearless of man, they admit of a near approach. If flushed, should the sea be calm, they not uncommonly alight in the water, and swim about with as much ease as Phalaropes do, till the intruder has passed. Their food consists of small mollusca, crustacea, and such insects as haunt maritime rocks; on the fells, in their breeding quarters, they feed on insects, chiefly small beetles and flies, with seeds. They are, as has been already mentioned, essentially frequenters of rocky coasts with us, and very rarely seen inland.

Family—SCOLOPACIDÆ.

KNOT.

Tringa canutus, LINN.

TRADITION derives the name of this bird from one of our early kings—who is popularly supposed to have had a penchant for it as a table-bird, as well as for the edge of the sea—the Latin form from his, Canutus, the vernacular from the Scandinavian form Knot, or Knud. Like the Purple Sandpiper, it is chiefly a bird of the Atlantic shores. Its breeding quarters were long a mystery, and even now its eggs are all but unknown, but it has been ascertained to nest in the extreme north, in Greenland, Grinnell Land, Melville Island, and the Melville Peninsula; it very possibly breeds also on the Liakhov, or New Siberian Islands. It has been reported to breed in Iceland, but this is unsupported by proof, though the Knot visits Iceland on migration: supposing the bulk of the vast numbers of Knots which frequent Western Europe to breed in the neighbour-

♂ Winter ♂ Jur. Autumn. Knot ♂♀ Summer

hood above mentioned, they would naturally pass very near Iceland en route, as I believe that they, and a great number of other birds, do. The Knot winters in Africa, India and Ceylon, Australasia and South America, down to Brazil, but not on the west coast. It passes along our coasts in spring and autumn, some remaining all the winter, if the weather be open. Adult birds are first to return in autumn, as is usual amongst the Limicolæ, and I have two shot in July; but at the end of the first week in August, young birds begin to appear, mingled with adults in faded summer dress, soon forming flocks from one hundred to possibly five thousand strong. It passes down the China coasts on migration in smaller numbers than with us.

Description of adult in summer: bill black; iris umber; crown, shoulders, back, scapulars, and tertiaries, black, with chestnut margins, which on the tertiaries form pairs of spots; eyebrow fulvous, spotted with dusky grey, meeting on the back of the neck and forming a half collar; wings sooty black, with white shafts to the feathers and white margins, most conspicuous on the secondaries; wing-coverts like the back; upper tail-coverts white, barred with black and stained irregularly with chestnut; tail ashy grey; under the eye a dusky streak ending at the ear-coverts; chin light fawn; throat, sides of neck, breast, and rest of under parts chestnut; axillaries white, imperfectly barred with grey; legs and feet black. Length 9½-10 inches, closed wing 6½-6¾. (Male, Yorkshire coast, 24, 7, '88; female, Northumberland, July, 1876).

Adults in winter: upper parts light grey, with a slight brown tinge, obscurely streaked with black on the crown; wing-coverts like the back (except the least series, which are considerably darker) and bordered with white; wing quills as in summer; rump and upper tail-coverts white, barred with black; eyebrow and under surface white, the throat minutely spotted with dusky, the upper breast and flanks with semi-lunar dusky spots; legs green-grey.

Young birds resemble the adults in winter, but have the crown black, with fulvous edges to the feathers; the feathers of the back and wings narrowly edged with a black line followed by a sandy fringe; under parts, except the throat, suffused with dirty buff, and spotted with dusky.

Nestling: "iris black . . . . .; throat satin white; back beautifully mottled tortoise-shell" (Feilden, "Ibis," 1877, p. 408).

The nest is said to consist of withered grass and leaves, loosely laid on the earth, near a stream, inland. Four eggs are the full number, doubtless, but three nestlings were oftener found with the parent by the "Alert" and "Discovery" Expedition. There is an egg in the Smithsonian Museum, at Washington (taken, I believe, from the oviduct of a bird), of which I have seen a carefully finished

plate; it agrees exactly with the appearance of an egg which was laid by a Knot in the aviaries at Lilford, and which is now in Cambridge. For this last information I am indebted to Mr. Dresser; the plate represents the Knot's egg as resembling that of a Turnstone, of a grey-brown (not greenish) ground colour, blotched with brown-black. Col. Feilden shot the male bird, in attendance upon the young, in Grinnell Land.

With us, the Knot is a bird of flat, sandy or, preferably, of muddy shores, and is always worth shooting for the table. Sir R. Payne-Gallwey once killed one hundred and sixty at a single discharge of his young cannon, but I have never got more than a dozen with an ordinary twelve-bore. The young birds are tolerably guileless when they first arrive in August, but soon get taught caution. The best time to get at them is when they are just being turned off the shore by a high tide. The food consists of small mollusca, but nothing living of the right size seems to come amiss. Formerly they were caught with nets, and fattened (upon bread and milk) for the table in considerable numbers. Sir Thos. Browne speaks of a light being always kept in the room where they were fattened, in order to induce them to feed night and day, as in their breeding quarters in the land of the midnight sun. They are often called "Plover-Knot" by shore-shooters, sometimes "Plovers" only. They are one of the first birds to be aware that the tide has begun to ebb, but they do not settle at once upon the shore, but wheel about in flocks, often at a height inconveniently great (for us), until the tide has gone down far enough to suit them. I do not recollect hearing the Knot utter any kind of a note.*

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* The Knot is a very noisy bird when feeding with its fellows, constantly reiterating a chuckling cry. The alarm-note uttered by the Knot when disturbed is a lively twitter, *Twih* and *Tui-twih*. It has also a loud croaking call-note, probably peculiar to the summer months.—H.A.M.

♂ Autumn ♂ Winter SANDERLING ♂ ¾ Summer

Family—SCOLOPACIDÆ.

SANDERLING.

Calidris arenaria, LINN.

THERE is hardly a known bird which has a wider range than the Sanderling. Roughly speaking, its breeding range is circumpolar, and very far north, and in spring, autumn, or winter, it is to be found on the shores of the rest of the world, excepting Australasia, which it does not approach nearer than Java and Borneo. In Asia it goes southwards to Ceylon, in Africa to the Cape, in America to Patagonia. It breeds sparingly in Iceland, Greenland, Smith's Sound and the Parry Islands, and probably in most parts of the Polar regions, north of lat. 73°. From its great numbers, it is fair to conjecture that its breeding grounds must be very extensive. Few satisfactorily authenticated Sanderling's eggs are in existence, nevertheless. On our coasts, Sanderlings begin to appear about the middle of August, and, as is usual with Waders, a few old birds, in rather faded summer dress, are first to appear; by the end of the month, young birds of the year are plentiful. A few may be found during the winter months, but, as a rule, they leave us about the end of October for the south. In April they reappear, but in smaller numbers, on their northward journey, some few remaining till mid-May, or even June, and being then in full summer plumage.*

Description of adult in summer (Yorkshire coast): bill black; iris umber; upper parts black, with lighter margins to the feathers—chestnut on the sides, greyish-white at the tips; wings nearly black, with white shafts and lighter centres to the primaries, which pass into broad white bases in the secondaries, some of which are edged with rufous; median coverts edged with white; sides of head, throat, and upper breast rufous, with black centres in the feathers in the male (in the female, as well, there are dusky semi-lunar margins on the sides of the breast); central tail feathers with the inner web nearly black, the outer greyish; the rest of the tail grey, with lighter inner webs; rest of under parts white; feet and legs black, with a green tinge. Length 7 to 7¼ inches, wing (closed) 4¾.

* The large flocks of Sanderlings which visit the N.W. coast of England in May and June, sometimes to the number of three thousand birds in a flock, are in changing plumage, very few of them having quite assumed the nuptial garb, though in process of doing so.—H.A.M.

Adults in winter (Northumberland, October, 1876) have no trace remaining of chestnut. The upper parts are light grey, with darker shaft stripes and whitish tips to the feathers; the shoulder is black, and the flight feathers as in summer; entire under surface pure white.

Birds of the year (the commonest plumage) are black above, with creamy white margins and marginal spots to the feathers, mingled with grey-buff; under parts white, with a dusky buff band across the chest.

The Sanderling may be recognized, in the hand, from all other Sandpipers by the absence of a hind toe; and on the wing (even a long way off) by its conspicuous black shoulder (formed by the dark lesser coverts), and by its white under parts.

Feilden describes the nest (Smith's Sound, 24, 6, '76) as placed on a gravel ridge, some hundreds of feet above the sea, "in a slight depression in the centre of a recumbent plant of arctic willow, the lining of the nest consisting of a few withered leaves, and some of the last year's catkins." I recorded in the "Ibis" (1886, p. 50) my supposed discovery of this bird's nest in Iceland. I was as familiar with the Sanderling, almost, as with the Blackbird, and followed the bird that left the nest in question for some distance, as it crept through the short grass, silently, ten yards before me. It had a chestnut head and neck, and white under parts; the eggs, which were on the point of hatching, exactly resembled the authentic eggs of the Sanderling, which several of the best judges pronounced them to be. But the carbolised embryos we subsequently extracted had hind toes, small, but unmistakable. I still believe the eggs to be those of the Sanderling, and see no reason why a Sandpiper, which breaks the otherwise universal rule amongst Sandpipers that there should be four toes on each foot, should not pass its embryonic life with the normal number. The eggs of the Sanderling may be described as small copies of those of the Whimbrel—greenish-drab in ground-colour, spotted and blotched with light sepia, and measuring $1\frac{3}{8}$ by 1 inch.

A tame silent bird is the Sanderling, frequenting sandy sea shores, where it feeds indifferently in company with waders of other species, (such as Dunlins and Ringed Plovers), by itself, or with others of its own kind. Its only note, as far as I have heard, is a low unmusical "wick," very like a Red-necked Phalarope's. It is invariably in good condition, feeding on small mollusca, crustacea, and annelids, not disdaining the flies which breed in decaying sea-ware at high-water mark. It swallows a little fine grit also, to assist its gizzard in triturating the food. Feilden speaks of the Sanderling as feeding largely, in Smith's Sound, upon the buds of *Saxifraga oppositifolia*, as all birds up there seem to do. It is very note-worthy how most birds, which visit the Arctic regions for breeding

RUFF ♀ ♂⅔

purposes, take to a diet of buds and other vegetable matter, even those species which elsewhere are accustomed to a purely animal diet.

Family—SCOLOPACIDÆ.

THE RUFF AND REEVE.

Machetes pugnax, LINN.

THE Ruff is a dog that has got a bad name—its two Latin names signifying the "Quarrelsome Fighter"—and not without reason. It is, however, a bird to be looked upon with pity and regret, as one that formerly bred with us in considerable numbers, and is now on the verge of extinction as a breeding species. The drainage of waste lands has been an important factor in bringing this about, but it was the custom of netting the birds at their breeding grounds, for the tables of the luxurious, when game was out of season, which settled their fate. They might even yet recover from this, and become comparatively abundant in Lincolnshire, Norfolk, and Suffolk, were it not for wholesale egg collectors—"clutch-mongers"—to whom the Wild Birds' Preservation Act is no deterrent whatever. The Ruff breeds in some numbers still in Holland, Belgium, Denmark, Scandinavia, Russia, North Germany, and Poland. With us, and elsewhere in Europe, it is a spring and autumn migrant. It winters in Africa, from north to south. It breeds also in Northern Asia, has occurred on passage in Japan, and winters in India, Burmah, and Borneo. In America it has occurred as a rare straggler, down to the Orinoco.

Description of adult males (North of England, June, 1877, and May, 1883): bill brown, darker at tip; irides umber; head and neck (on which is a large erectile ruff) any shade of black, white or chestnut red as a ground colour, barred or spotted with either or both of the other two colours; breast and back coarsely blotched with the same colours as prevail on the ruff; rest of upper parts hair-

brown, of under parts dingy white; legs and feet yellow-brown. Length 12 inches, closed wing 7 to 7¼. It is very difficult to find two males exactly alike, and this nuptial dress is only worn in May and June.

Male in winter (Yorkshire coast, September and October): head and neck hair-brown, with black centres to the feathers of the crown, the erectile ear-tufts and ruff entirely gone; rest of upper parts nearly black (browner on the wings), with buffy-white margins mixed with rufous; sides of face grey-brown, freckled with red-brown; throat and chin nearly white, unspotted; breast grey, with a rufous tinge, the rest of under parts dingy white.

Young male in autumn (Northants, 22, 9, '90) differs from the above in being much more rufous all over.

Females (Reeves) resemble, according to age, the two last mentioned male plumages; but in mid-winter all traces of white or buff margins to the feathers of the upper parts are lost. Length 9¼ inches (young) to 10; closed wing 5⅞ to 6. The Reeve never puts on a ruff in breeding dress as the Ruff does.

Nestling (Denmark): upper parts buff, ruddier on the crown and wings, mottled with irregular blackish lines from head to tail; under parts buffy-white.

The nest is placed on the top of a rushy tussock, in a wet marsh, and is tolerably well concealed. The eggs are four in number, sometimes three only, pyriform, olive brown in colour, spotted and blotched with light neutral tint and umber brown, chiefly at the larger end. There is reason to suppose that they are made at times to do duty for the eggs of the Great Snipe, as has been mentioned when treating of that bird. The Ruff is polygamous, as is—I believe—almost always the case with those species in which the males are larger in size than the females, *e.g.*, the Pheasant, Black Cock, Capercaillie, Ostrich.

It is at the commencement of the breeding season that the Ruffs earn their martial title. They select at their breeding quarters certain neighbouring mounds or hillocks, as the lists wherein to shew their mettle. On these, by trampling, they clear a bare space, and at day-break "hill," or meet there, in mutual defiance of all comers, as Black-cocks do. Finding an adversary, the pair erect their ruffs and ear tufts, lower their heads, and spar at one another like game-cocks, with an excessively warlike (or Hellenic) air, which, however, never seems to result in any injury beyond the loss of a few feathers. It was by playing upon this combative spirit that the ancient fowlers (who are as extinct now in Britain as their prey) used to catch the Ruffs for the market with nets and stuffed decoy-birds. For a fuller account the reader is referred to Montagu ("Orn. Dict." Ed. II, pp. 442-6). It is safe to conjecture that the duties of incubation, and the care of the young birds, fall to the Reeve.

The Ruff and Reeve are not uncommon on our coasts in the autumn, usually found in small parties of half-a-dozen or so, and flying with considerable rapidity. Their note is unmusical, and may be roughly described as the syllable "wick" repeated several times rapidly. Occasionally this bird is found some distance inland, as was the case with the young male described above, shot by the Nene in mid-Northants, at the end of September. I was at some pains in this case to ascertain the nature of the bird's food; this is a branch of study I strongly recommend to young ornithologists. The only way to know with certainty the food of a species, is to ascertain what individuals have eaten, and this would save us from a good deal of the rubbish that is written nowadays by enthusiastic amateurs, as to the usefulness, or the reverse, of various species of birds to man —this of course is not, as they appear to imagine, a matter of opinion—still less of imagination—but of exact and careful investigation, such as was undertaken, some years ago, by Mr. J. H. Gurney, in the case of the Sparrow.

In the case of this young Ruff, I took from the lower end of the œsophagus (there is no dilation of this organ which can be properly called a crop), and the gizzard, the following mixed assortment, or "general cargo": four larvæ of an ephemera, a grass-hopper's hind leg, some remains (a good deal) of fresh water bivalves, two crane flies, a fat white coleopterous grub, a black fly, much gravel, a considerable quantity of "mush," in which were visible various unrecognizable scraps of insects, and also a good deal of fresh water alga. It is easy to slit with a pair of fine scissors, or a blunt-pointed bistoury, the œsophagus and gizzard of a bird, and, removing the contents with a pair of forceps, wash them in a watch glass in two or three changes of water, till they shew their real nature under a pocket lens.

By the sea I have generally found small mollusca and crustacea to form the bulk of the food of Ruffs and Reeves. In confinement they used to be fattened for the table on bread and milk, and even boiled wheat.

At the risk of incurring the publisher's wrath on account of exceeding my due space, I cannot but add a graphic account from Abel Chapman's "Wild Norway," published since I wrote the above, describing Ruffs "hilling" in Denmark. "A dozen Ruffs, of a dozen different colours, dot the patch of down-trodden grass; presently, with a loud clap of a wing against his side, one darts at another, wings half spread, feathers all on end, and the long ruff and ear-tufts erected to the utmost. The champions stand facing each other with lowered necks and drawn swords—not six inches apart—like game cocks. For two whole minutes they stand thus, immovable; then there is a sharp pass—so quick, one cannot follow it—and one of the combatants darts off, vanquished, at amazing speed.

That particular affair of honour is over; but, meanwhile, two or three similar scenes have commenced, and over the whole 'hill' there is incessant movement of rival Ruffs, marching and counter-marching, scuffling and scuttling." Mr. Chapman has been a patient and observant student of his subject, and also knows how to write; many of our modern instructors seem to think the latter qualification sufficient, considering the available stores of published information.

Family—SCOLOPACIDÆ.

BUFF-BREASTED SANDPIPER.

Tryngites rufescens, VIEILL.

AN American straggler, of which about a dozen and a half examples have been obtained in our islands, mostly in the south and south-east. Only once killed on the Continent of Europe, in Heligoland.

Its main breeding range is the High North of the American Continent, but it has been found (and probably breeds) in Kamtschatka, near Behring Straits, and further west, by Von Middendorf, in the sea of Okhotsk. It might be expected to occur, therefore, on migration, on the east coast of Asia, but it has not yet been reported thence, nor has it been found in Greenland. It occurs on migration all over the United States and the West Indies, wintering in South America down to about lat. S. 35°. With us it occurs mostly in autumn, but the Heligoland specimen was shot in May.

Description of adult: upper parts sooty-black, with broad buff-brown edges to all the feathers, largely obscuring the black; primaries browner, their tips, and those of the brown tail feathers, with a faint greenish gloss in certain lights; *the inner web of the primaries mottled and blotched with black, upon white*, especially towards their tips; sides of head and under surface of the body warm buff, with

BUFF-BREASTED SANDPIPER ♂ ⅘

BARTRAM'S SANDPIPER $\delta \frac{5}{8}$

a few odd black spots on the breast. Length $7\frac{1}{2}$ to 8 inches; closed wing $5\frac{3}{16}$ to $5\frac{3}{8}$.

Young birds are rather smaller, lighter beneath, and have the mottlings and blotchings on the inner web of the primaries in the form of minute frecklings, upon greyish-white.

According to Murdoch (U. S. Expedition to Point Barrow, Alaska) the nest consists of a shallow cup, lined with moss, in the drier uplands of the tundra. Eggs four, very handsome; ground colour clay-buff, less commonly olivaceous or cold grey, boldly spotted and blotched with neutral tint and dark brown-black; length nearly $1\frac{1}{2}$ inch by about 1 inch. The males seem to do a little gentle fighting at pairing time, and have a habit of holding one wing erect in the air at the same period.

A quiet unobtrusive bird, feeding on beetles and other insects, and getting very fat in autumn; therefore sought after on migration for the table. Very silent too, apparently, only uttering at intervals a feeble "tweet," like a Sanderling. The mottled, or freckled inner margin to the primary wing quills, will separate it at a glance from any bird of its size and make.

Family—SCOLOPACIDÆ.

BARTRAM'S SANDPIPER.

Bartramia longicauda, BECHST.

ANOTHER American wanderer, of which rather less than a dozen occurrences have been known in Britain, and one or two on Continental Europe, all in October, November, and December. It bears a considerable superficial resemblance to the Little Curlew *(Numenius minutus)*, from Eastern Asia, the bill of the latter, however, is longer and decurved, and the primaries plain. Its real affinities are with the genus *Totanus*, however, shewn in its barred tail.

It breeds all over the United States and Canada, and northwards to Yukon, wintering in South America down to Chili and the Rio de la Plata.

Description of adult (Puebla, Mexico, H.E.D.): bill slender, yellowish-green, dark at the tip; iris brown; general colour sandy below, buff above; crown dark brown, except for a central buff line; shoulders and wings brown, each feather with a buff margin; tertiaries barred also with black; primaries brown, with a white shaft to the first only, *and the inner webs of all, especially the first and second, whitish, barred and mottled with brown;* rump and lower back sooty black; upper tail-coverts barred, dark brown and white; tail buff, with several dark brown bars across all the feathers, the subterminal one much the broadest; the central pair of feathers nearly an inch longer than the external pair, and the tail, therefore, acutely wedge-shaped; throat and upper breast buff, with narrow dark brown stripes, some of the lowest becoming arrow-heads; chin and rest of under parts plain sandy, barred only on the flanks with brown; axillaries white, barred regularly with black; legs and feet yellow. Length, males 11¼, females nearly 12 inches, closed wing about 6½.

The winter dress hardly differs from that of the summer, except in the greater development of the buff edges to the feathers; it is, probably, by the wearing away, or absolute moulting, of these fringes that the summer dress, as in so many birds, is arrived at.

Young birds closely resemble the adults, but are still more rufous above.

The nestling (Iowa, H.E.D.) wears a pretty mixture of finely mottled black and soft grey above, with rufous tips; below sandy-white; "bill bluish, with dark tip; legs clay colour," (Coues).

It breeds on the prairies of the interior, even after they have come under cultivation; the nest, a hollow in the ground, lined with a few dead leaves and grass blades. The eggs four, not markedly pyriform, drab in colour, sometimes with a greenish or pinkish tinge, blotched with light neutral-tint and dark brown. Length 1⅞ by rather over 1½ inch. The female is said by Dr. Coues to do the sitting; the young at birth are more helpless than is usual amongst the Limicolæ, and require the attention of the old birds for a comparatively long time; the latter are devoted parents, and very solicitous in the presence of man.

"A fine game-bird" (Coues). The food consists of grasshoppers, very abundant on the prairies; beetles, worms, mollusca, and even berries are also eaten, and the birds are nearly always in good condition—usually extremely fat—and held in high estimation for the table. They seem to be usually tame, and easily shot. Their ordinary note has gained them the name of "Papabot," and they have also a harsh alarm-note, and a long melodious love-whistle. They are

COMMON SANDPIPER $\delta\frac{1}{8}$

familiarly known across the water as "grass-plovers," or "field-plovers," or even "prairie-pigeons."

Family—SCOLOPACIDÆ.

COMMON SANDPIPER.

Totanus hypoleucus, LINN.

THE "Summer Snipe," as this bird is often called, is a great ornament to our west and north country burns and lochs during the summer months, and pleasant company to the wandering trout fisherman. It is a bird of wide range, but does not breed much north of the arctic circle, except in Scandinavia, where the Gulf Stream brings a mild temperature not enjoyed by North Russia and Northern Asia. Elsewhere it breeds in suitable localities throughout Europe; in Persia, probably, the Himalayas, China, and Japan; in the Canaries and Azores in Africa. Its winter quarters are the whole of Africa, India and Ceylon, Indo-Malaya, and Australasia. It is a bird of powerful and sustained flight, and I met with it in winter in the island of Rodrigues, in 1874, distant three hundred miles of open sea from Mauritius, the nearest land. With us, the Common Sandpiper breeds in hilly districts; Howard Saunders sums up its breeding range excellently, by stating that west of the Severn (including all Ireland), and north of the Trent, it is well known; elsewhere in England, a spring and autumn migrant. There is, however, reason to believe that it has bred more than once in Northamptonshire.

Description of adult in breeding dress (Northumberland, ♂, May, 1877, etc.): bill dark brown, lighter at the base; iris umber; upper parts hair-brown, with a green or purplish-bronzy sheen in certain lights; dark shaft-lines to the feathers, becoming, on the back and tertiaries, dark arrow-heads; wings darker brown, with white tips to the greater coverts; secondaries have their larger half (the basal), and their tip, white; tail of the same brown as the back, with white tips to all

but the central pair of feathers, and several imperfect dark bars on the external ones; an indistinct white eyebrow; throat and fore neck white, shading into hair brown on the sides of the head, the neck and upper breast with dark brown shaft streaks; rest of under parts white (whence "*hypoleucus*"); legs and feet greenish-grey; claws black. Length 8 to 8¼ inches, closed wing 4⅜. Female a little smaller and less boldly marked.

Adult in winter (Woochang, Yangtse River, 1880) is more uniform in colour, the spots on the upper parts, throat, and breast, being reduced to linear shaft stripes. The bird is seldom, if ever, seen in this dress in our country.

Young birds (♂ Yorkshire coast, 18, 8, '91, ♀ 22, 8, '84, etc.) have the upper parts, especially the wing-coverts, narrowly barred with dark brown and sandy buff, and the chin and throat unstriped white.

Nestling: hair-brown above, with a black stripe through the eye and another from the beak, over the crown, and down the spine; below dingy white; legs and feet greenish.

The nest is often described as being amongst willow bushes, or even in corn-fields, near a stream; but in the North of England and Scotland, where I have had a good many opportunities of seeing the nest, I have usually found it—quite unconcealed—on the shingly wastes, dotted with grass patches, rushes, and a few willow bushes, which are made by the winter floods of most of the rapid northern streams and rivers—or else under a tuft of heather, rushes, or other coarse herbage on the bank of a smaller burn. The nest in the former case has merely a little dead grass as a lining; in the latter, generally dead leaves and moss as a basis, with grass as a lining. The eggs, pyriform, four in number, very large for the size of the bird, are of a light cream buff, spotted and blotched with two shades of warm brown—coloured much like those of the Corncrake and Waterhen, in fact. Length 1½ by 1 inch broad. I once found a single fresh egg of this bird balanced on the top of a stone, by a Northumberland burn side, so exactly, that I could not replace it except after several attempts. Common Sandpipers are very solicitous when they have young, and both old birds are in attendance; or, if not, the second appears very soon after you do. Dresser states that the female incubates; I have no personal evidence to offer on this point, never having shot the bird from the nest.

The Common Sandpiper is a tame and pretty little bird, flitting, with tremulous wing and tremulous pipe, about rocky and gravelly rivers, in spring and summer. It appears in its breeding quarters about the end of April, and leaves them at the end of August, being found on migration with us, especially by the sea, till the end of the next month. While on the move, they seem to

prefer brackish and fresh ponds, and the ditches that drain the lands, to the sea shore itself; and the individuals seen at such times and places are nearly all young birds, with unstriped throats.

As well as being a bird of rapid and sustained flight, the Common Sandpiper can run very rapidly, and swim and dive well. I have seen it alight on still water of its own accord, and one which I winged (and which arose silently from rushes beside a brackish pond, in such a manner that I was doubtful what bird it was) dived repeatedly before my retriever got it. A good many field naturalists mention this bird as perching on trees; there is a rocky pool off the North Tyne, where I used often to fish some years ago, over which projects, or projected then, an almost horizontal trunk of a tree, a foot thick and ten above the water. I hardly ever went there without seeing a bird of some kind perched on it, as it was such a commanding look-out; Kingfishers, Grey Wagtails, Sparrow-hawks, Dippers, used it, and a Sandpiper hardly ever went up or down stream without perching there for a few seconds at least, if only to stand and flirt its tail up and down, and curtsey like a Dipper. The food inland consists of flies, fresh-water shrimps, and larvæ—they seem very fond of ephemerous larvæ—by the sea, on migration, they eat amphipods and other small crustacea, and generally have fine gravel mixed with the food in their gizzards.

Their note is a tremulous whistle—I have heard no other—generally uttered on the wing, which always recalls to my mind happy days by northern streams and lakes, of freedom and perfect liberty, greater than seems easily obtainable in this country nowadays—at least, by a poor man.

Family—SCOLOPACIDÆ.

WOOD SANDPIPER.

Totanus glareola, GMEL.

I CANNOT quite agree with many authorities on British Birds, when they describe the Wood Sandpiper as only an occasional visitor to our shores. When I used to visit the Yorkshire coast almost annually to watch the migrations of birds, I found this species there every year, though not in great numbers; still, I have no doubt that I could have obtained fifty specimens, or more, in the course of ten or fifteen years. But it seems scarce except on the east coast, and only one example has been obtained in Ireland. It breeds from North Norway to Kamtschatka, chiefly in the extreme north, but occasionally in the valley of the Danube and North Italy; Saunders shot a female in Central Spain which had been recently incubating.* It winters in Africa, India, Indo-Malaya, and Australasia. With us, the Wood Sandpiper's nest was once taken by Hancock, in Northumberland, and eggs have been obtained near Elgin. It is very much like the next species, externally, which, on the occasions when it rises silently, may easily be taken for a bird of the present species; but the two are easily separated when in the hand, by the colour of the long axillary feathers.

Description of adult in breeding dress (Dovre-fjeld, ♂ ♂ ♀, June, 1882; ♀, Russian Lapland, June, '95): bill blackish, browner at base; iris umber-brown; crown sooty-black, with obscure whitish margins to the feathers; back and wings sooty-black, the white margins taking the form of spots, except on the primaries, which are quite plain *(with a white shaft to the first only)*, and the secondaries, which are tipped with white; upper tail-coverts white, except the few long ones next the tail, which are barred with dark grey; tail white, with about six bold sooty bars across each feather; in some individuals (probably last year's birds—but the peculiarity is, at all events, neither a sexual nor seasonal one) the two central tail feathers have the white interspaces clouded with brown; eyebrow and sides of face brownish-white, the latter minutely spotted with brown; a dark streak from bill to ear-coverts through the eye; chin and throat white, as also

* Styan describes it as a "common spring and autumn migrant," in the Lower Yangtse Basin, "very rarely found in winter."

WOOD SANDPIPER ♂ 7/8 AUTUMN ♂ SUMMER

the rest of the underparts, the lower neck and upper breast with dusky brown shaft-stripes, broadening below into spots; *axillaries white, faintly and incompletely barred with dusky;* legs and feet greenish-grey. Length 8 to 8½ inches, closed wing 4¾ to 5.

The adult in winter is less spotted with white above, and the spots on the breast are narrowed into fine shafts-streaks, on a ground colour of ashy-grey.

Young birds (the usual form with us) have the marginal spots of the upper parts of a rusty drab, instead of white, and the tail bars rudimentary. Length generally under 8 inches, wing little over 4½.

Young, in down (Kittilá, N. Finland, 21, 6, '89), grey above, with a ruddy tinge, and several bold sooty-black bars from bill to tail (two combining to form a black crown); under parts silvery grey.

Obs.—The Wood Sandpiper is to be distinguished from the Green Sandpiper without the least difficulty, by its white, scarcely barred, axillaries, and the white shaft to its first primary.

The nest is usually placed on a dry bushy hillock, within convenient reach of the marshes where the birds feed, and to which they mean in time to lead their young. The nest itself is a mere hollow in the ground, amongst heather, willow-scrub, sweet-gale, or long grass, and is lined with a little fine grass. The eggs are four in number, pyriform, of a light greenish-drab (occasionally ochreous) with light neutral tint blotches, and spots of sepia-brown; they measure about 1½ inch by a little over 1 inch. Hewitson states that the female incubates; I have not shot the bird from the nest.

When met with by the sea on migration, the Wood Sandpiper is not noticed (as far as I have seen, and I have seen dozens) on the sea-shore itself, but rather on brackish ponds, drains, or chance accumulations of rain water near the shore. I have always thought that there were more Wood Sandpipers to be seen in a wet season; but probably the fact is that, there being more wet places suited to their tastes, they linger longer instead of pressing on southwards, and attract more notice in consequence. The Green Sandpiper can swim well, and even dive, on occasion. Styan mentions (Ibis, 1897, 507) a bird of this species "alighting voluntarily on a pond in deep water, swimming to the shallows, and quietly beginning to feed."

I hardly consider it a shy and wary bird, in which respect it differs markedly from the next species. In its breeding haunts it often perches on trees and bushes. As has been mentioned (*sub voce* Common Snipe), the Wood Sandpiper at its nest goes through much the same aerial evolutions as the Snipe, the descending motion with quivering wings being accompanied by a tremulous vocal

trill. The ordinary note when flushed is a double or treble whistle, but they often rise quite silently, which the next species seldom does.

This bird has rather a musky scent—somewhat like the Shearwaters—and I should doubt if it is fit to eat, but I have never been driven to experiment in this direction. The food consists of insects, worms, larvæ, and small mollusca, and there is usually gravel in the gizzard as well.

Family—SCOLOPACIDÆ.

GREEN SANDPIPER.

Totanus ochropus, LINN.

THE Green Sandpiper gets its name from the greenish-grey legs, and the bronzy-green gloss of its back. It nests in wet woods near convenient marshes, in Northern Europe and Asia, up to, but seldom above, the Arctic Circle, and down to Germany, Poland, South Russia, and Turkestan. It has been recorded as breeding in England, the Pyrenees, Alps, Carpathians, and Caucasus, but, though not unlikely, definite proof seems still wanting. The same may be said of Japan, whence I have a skin in summer dress, and China;* with us, in Central and Southern Europe, the whole of Africa, India, Ceylon, Burmah, and the Malay Archipelago, it is an autumn and spring migrant, remaining in the southernmost of these through the winter. With us, too, like the Wood Sandpiper, it is more abundant on the east side than the west, but, unlike it, sometimes stays through the winter. In America it has not been known to occur, but is replaced by the next species, which wants the conspicuous white rump of our bird.

Description of adult in summer: bill dusky, with a light brown base; iris umber; upper parts hair-brown, with an olive sheen on the back and wings;

* In the latter country Styan describes it as "common all the winter," the last species being only a spring and autumn migrant.

GREEN SANDPIPER $8\frac{1}{8}$ AUTUMN

wing-coverts with a few small whitish spots; tertiaries and scapulars with pairs of marginal white spots, giving the back a speckled appearance; primaries and secondaries black-brown, *with no white shafts;* rump and upper tail-coverts white; tail white, with four bold dark brown bars (one forming a tip) to the central feathers, decreasing to one spot on the outer pair; a white eye-brow reaching from the bill, with a dusky eye-stripe below it, passing through the eye to the ear-coverts; sides of face and neck white, spotted with dusky brown; chin and upper throat white; rest of throat and upper breast dusky, with dark shaft-stripes widening at the tips into spots; breast and belly white; *axillaries sooty-black, narrowly and regularly barred with white;* legs and feet greenish-grey. Length nearly 10 inches; closed wing $5\frac{1}{2}$ to $5\frac{3}{4}$.

Adults in winter have almost or entirely lost the light spots on the back, and their colours generally are duller.

Young in autumn are a good deal smaller, and have very much spotted upper parts as in the summer dress, but the spots are buff, not white, and there are a few round buff spots on the crown; a tinge of buff pervades the ends of the central tail feathers; length $8\frac{1}{4}$ to $8\frac{1}{2}$ inches, wing $5\frac{1}{4}$.

Obs.—Easily to be separated from the Wood Sandpiper by the blackish axillaries narrowly barred with white, and the shaft of the first primary which is as dark as the rest of the feather. Moreover, the Green Sandpiper has only one posterior notch in the body of the sternum, or breast-bone, while the Wood Sandpiper, and most Waders, have two.

Nesting.—In this respect this bird is a most abnormal Limicole. Instead of laying its eggs in a hollow in the ground, it nests—it cannot be said to "build"—in trees. It selects, in some damp wood adjacent to ponds or marshes, an old nest of the Crow, Magpie, Jay, Wood-Pigeon, Thrush, Fieldfare, Missel Thrush, or Blackbird—or an old squirrel's drey—or even a chance aggregation of twigs and dead leaves in a pine branch—or a dead stump of a tree with a hollow in the top—at an elevation of three to thirty-six feet above the ground. Usually no extra lining is added, except in the case of bare wood in a hollowed stump, in which case the birds forage for a little moss, or a few dead leaves. In Scandinavia I have seldom failed to find a pair of Green Sandpipers at every little pond or marsh I have come across, in a small opening in a pine wood, and I have no doubt that in many cases they were nesting. But, being in pursuit of the birds themselves and not of eggs only, I never took a native with me to do the climbing, and very soon got tired of climbing to all the adjacent old nests myself; and, consequently, missed the right trees as a matter of course. If an ornithologist on the prowl wants to see and observe the birds, and not merely to amass eggs, he

is best alone, or with one companion, at most, of similar views. For this reason —that one sees so much more of the ways of the birds when quietly going about alone—I have generally preferred not to take an attendant about with me, unless I can get a gamekeeper, or some one accustomed to hunt wild birds and beasts. Such attendants as are picked up by chance on the spot, have a way of dressing themselves in such a manner that they instantly attract the notice of every creature that has eyes, and is within a mile of them. In addition, they have no idea of keeping out of sight, and are addicted to using their voice boisterously, just when it is most important that they should not; and they invariably tread on every dry stick they come across.

Even amongst ornithologists, there is not nearly enough attention paid to such matters; a really congenial and judicious companion is not often met with; but I am privileged to know a few. Had I, on the occasions above, known of Mr. Bidwell's excellent and ingenious invention—a Japanese telescope rod, with an inverted mirror at its point—I could have examined the inside of any nest up to twenty feet above the ground, without the fatigue of "swarming."

The normal number of eggs is four, but seven have been found in one nest, but this was, no doubt, a co-operative store. The eggs are of a pale greenish drab, with neutral tint shell-spots and purplish-brown surface spots, a shade larger than those of the Wood Sandpiper, measuring over 1½ inch by 1$\frac{1}{10}$. Eggs are to be found, by the fortunate, from mid-April to early July.

The Green Sandpiper is a very shy and wary bird, with acute ears and sharp eyes. It would be very difficult to shoot were it not for its habit of frequenting ditches and streams with high banks, which allow it to be approached by a cautious stalker. I generally make a point of stalking a Green Sandpiper, even when I have no intention of shooting at it, for practice. In this country it always seems to prefer running water to ponds (the Wood Sandpiper generally shewing an opposite taste) and fresh water, or, at least, brackish, is more to its fancy than salt. It is not uncommon inland by small streams in spring and autumn, singly, or in pairs; but its loud "yelp," and the sight of its white rump vanishing swiftly a good way off, are all that most people get a chance of hearing and seeing of it. It feeds on beetles, flies, gnats, semi-aquatic and subterranean larvæ and worms; also fresh and brackish water mollusca and crustacea. Like most of the Totanus group, it likes to dabble its food in water—no doubt to wash off mud – before swallowing it. Its flight is rapid and erratic, like a Snipe's, and it generally rises with a loud "weet-weet," a good many times repeated, except when surprised and greatly startled by suddenly finding a possible foe close to it; it then generally rises silently and in a flurry, and does not call out till it

has had time to recover its usual presence of mind. Young birds do not always call out when rising, however. It is found with us on migration from mid-August; some few remain through the winter; the vernal migration takes place in March and April, but odd examples are met with through the summer, probably birds of the year before, who do not feel impelled to breed.

This species has, in a still greater degree, the musky scent mentioned as belonging to the last species. After writing the description above, taken from skins, some of which had been in my collection for fifteen years or more, my hands were as strongly scented from merely handling the birds as if they had been Fulmar Petrels. I should imagine that the bird is particularly nasty to eat, but have not been impelled to investigate this personally.

Family—SCOLOPACIDÆ.

SOLITARY SANDPIPER.

Totanus solitarius, WILSON.

A SPECIMEN of this New World species was shot on the Clyde, and brought to notice, by Robert Gray, in the "Ibis," for 1870, page 292. Since then, one has been obtained in the Scilly Islands and one in Cornwall. It is the American representative of *T. ochropus*. It is smaller than that bird, however—at least, than adults—being only $8\frac{1}{4}$ inches in length, with a closed wing of $5\frac{3}{8}$. It lacks the white rump of our bird, that part of it being of the same colour as the back and shoulders, though there are some white feathers at the sides, barred with black. The central pair of tail-feathers is dark brown, with small white marginal triangular spots; the rest of the tail white, barred with the same dark brown; the axillaries are like those of the Green Sandpiper, only with rather broader white bars.

It breeds in the Northern United States, and up to Alaska, and winters in

Central South America. Little is known of its breeding habits, or eggs, and it is most likely, therefore, an abnormal breeder like its Old World representative.

Dr. Coues describes it as a quiet, shy inhabitant of wet woods, meadows, and secluded pools, rather than of the marshes, resembling, therefore, the Green Sandpiper in this respect also.

Family—SCOLOPACIDÆ.

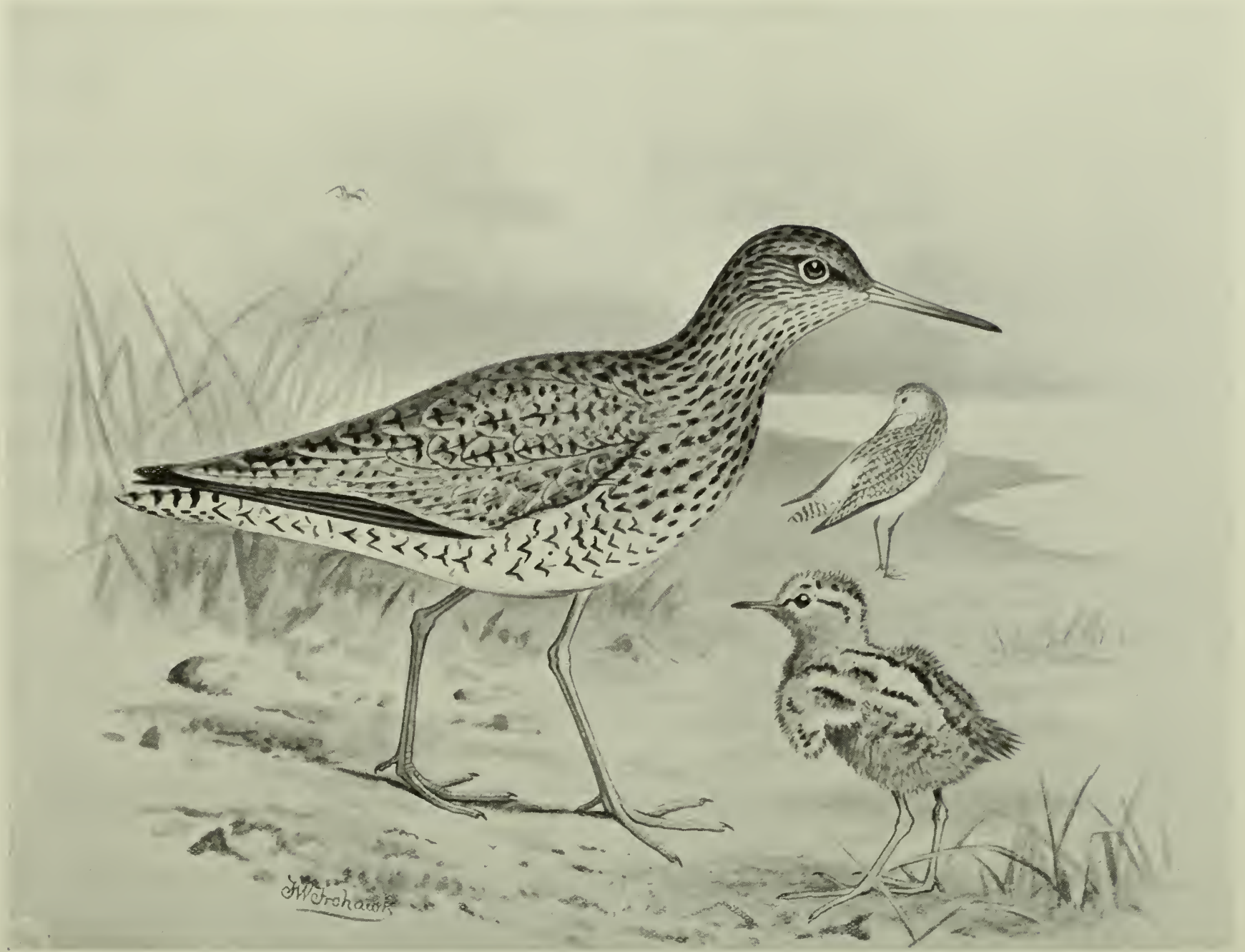
YELLOWSHANK.

Totanus flavipes, GMEL.

ANOTHER American vagrant, of which a specimen has been obtained in Notts, and another in Cornwall. Its breeding grounds are from Lake Superior northwards, and from Alaska, in the west, to Greenland (probably). It passes on migration through the States and West Indies, to winter in South America down to Patagonia.

It much resembles a small Redshank, both in summer and autumn dress, but has a longer tarsus (seldom less than two inches) and a slenderer bill. Its legs are of a bright yellow, and its axillaries are, in summer dress, barred with dusky grey-brown, and in autumn it does not entirely lose these bars, as the Redshank does, but retains at least a subterminal bar, and usually another also, on each feather.

Its nest is placed on the ground near a woodland marsh, and is lined with a few dead leaves. The eggs, four in number, are of a clay-buff or cream colour, generally heavily blotched, but sometimes spotted only, with dark brown or black. It feeds on small insects, crustacea, etc.



REDSHANK ♀♂

Family—SCOLOPACIDÆ.

REDSHANK.

Totanus calidris, LINN.

A WELL-KNOWN bird with us. It breeds in most parts of Europe as far north as Iceland, the Færoes, Northern Norway, and the coasts of Russian Lapland (We found a nest with four eggs near Sviatoi Nos in 1895). East of the White Sea (I quote from Seebohm) its northern limit drops to 58°, in Siberia and Turkestan to 55°. In Northern Africa (which is, north of the Sahara, a part of Europe, zoölogically) it breeds, and to the coasts of the rest of Africa is a winter visitor; and in Asia, winters in India, Ceylon, Burmah, and Indo-Malaya, passing Japan and China on migration. With us it is a sea-coast bird, some retiring inland to nest in marshy places and wet river-meadows; in most parts of the coast abundant; on August 22nd, 1889, in my notes made on the Yorkshire coast, I find the entry, "anything like the Redshanks, I never saw before; one flock of over one hundred within thirty yards of me; I must have seen over one thousand here to-day." That year there was an exceptional migration of them.

Description of adult in summer (♀ shot off eggs, Ljosavatn, Iceland, July 4th, 1885, etc.): bill dark brown at tip, yellow at base (1$\frac{11}{16}$ inches long); iris umber; crown, back, and wings, ash-brown, with darker shaft-streaks to the feathers; on the scapulars and tertials these widen into zig-zag transverse bars, and are mingled with a few light rufescent spots; the greater wing-coverts have a few dark marginal spots and white edges; primaries very dark brown, *the first only with a white shaft*, the innermost with white inner webs, freckled with brown; secondaries nearly white, with a few brown dashes; lower back and rump white; upper tail-coverts white, barred narrowly with sooty; tail white, the central pair of feathers clouded with brown, and all narrowly barred with sooty-black; sides of head, throat and neck, breast, sides of body, and under tail-coverts, white (duskier on the breast), striped, spotted, or barred with dark brown; axillaries white, with a few subterminal streaks; centre of belly white; legs and feet vivid orange-red; claws black. Length 11 inches, closed wing 6$\frac{3}{4}$. The male is rather smaller.

Adult in winter (♂ Bamborough, 28, 11, '77, etc.) is much duskier and more uniform in tint; the shaft-stripes of the upper parts are inconspicuous; there are a few minute black dots on the scapulars and tertiaries, and the white rump of

summer is now flecked with dark spots; under parts dusky white, with rather duskier shaft-stripes, which are linear on the throat and neck; axillaries white; legs clear yellow, with but little orange in it.

Young in autumn (♂ ♂ ♀ ♀, etc., Yorkshire coast, September and October) have many saw-tooth spots of rusty buff on the back, scapulars and tertiaries, and of rusty white on the wing-coverts; under parts dusky (whiter on the throat and belly), spotted and striped with grey-brown; legs dirty yellow. Length $9\frac{3}{4}$ inches, wing $5\frac{3}{4}$.

The nestling is ruddy buff above, pale buff below; a black streak through the eyes, one on either side of, and one through the centre of the crown; three irregular black stripes (the centre one spinal) down the back; feet dirty yellow.

The nest is usually artfully concealed in the centre of a tuft of rushes, or coarse grass, on the top of a tussock in a wet marsh, or river-meadow; several pairs generally nest within a short distance of one another. Fresh eggs are to be found between mid-April and the end of May, but the nest in Lapland, mentioned above (eggs slightly incubated), was found on June 26th, so allowance must be made, as with most other birds, for latitude. On August 10th, 1894, some mowers shewed me a Redshank's nest, containing four incubated eggs, which they had just laid bare in a meadow in Lower Reykjadalr, in North Iceland; but the usual egg-season for this bird in Iceland is mid-June. The eggs are light stone-buff in ground colour, blotched with light neutral-tint and spotted with dark sepia. Some are finely, some boldly spotted, and their length is nearly $1\frac{3}{4}$ inches, with a breadth of about $1\frac{1}{4}$. There is but little lining to the nest, only a little fine grass. I suspect that both sexes incubate equally, but I have only shot one bird off eggs, the female described above. The parents are both in attendance upon the young birds, and are very clamorous and tiresome, as they will follow, for a long distance, every human being they see, and alarm the whole neighbourhood.

The Redshank is easily recognized by its familiar note "tiū-to͝o-to͝o" (I give this clumsy formula for what it, or any other attempt at writing a bird's note, may be worth, which is not much). On the wing the broad white bar across the wing, formed by the white secondaries, and, at close range, the bright orange-yellow legs, make it a conspicuous and handsome inhabitant of our shores, marshes, and river-meadows. Though wary and wild, it is a very easy bird to call and shoot, especially in the case of the young in autumn, but it is not worth shooting, except by those who want specimens, as it is worthless for table purposes. At the risk of appearing tiresome, I cannot but enter another protest against the thoughtless cruelty, or lust for killing, of many Englishmen. A good deal of recognized sport is nothing else but a thirst for slaughter; the keepers are the

only people of the party who exhibit any real "sportsmanship" (as distinguished from skilled gunnery), and the bigger the butcher's bill, the greater, apparently, the supposed success. The essence of true sport is, I have always been taught, to pit your own wits against those of a creature whose death, if you compass it, will be of some practical benefit to you, either as a means to a food, a clothing, the removal of a pest or danger, or as a means of increasing your knowledge. We have no right to take the life of a harmless creature, except on one of these grounds, not even on the ground of personal adornment. But the tender mercies of the thoughtless are cruel. I once watched a brute (a well dressed brute, too), in a boat off Spurn Point, shooting Terns in September. Now Terns are entirely harmless, any boy of 15, without the least skill, can shoot them, and this creature was at them the whole afternoon. He did not trouble to pick one of them up, nor even to see that the mangled ones were put out of their misery. They dropped; each one counted for one more; suffering was nothing to him. The next day the shore was covered with dozens of the poor birds, some, even then, only half dead. One's blood simply boils at this savage, callous brutality. I know even of a worse case. A Magistrate, who has plenty of game shooting of his own—a good shot, and in no need of practice therefore—confessed, without any apparent shame, that he had recently had "grand sport" amongst the Gulls on the coast, and had on one occasion used two hundred cartridges; he had picked none up, nor, apparently, troubled to see whether they were actually killed or not. And there are those who maintain that this is a civilized country! The ferret, and others of the weasel tribe, will kill till they are exhausted, for the mere lust of blood, but one does not expect to find civilized human beings, or those who claim to be such, on no higher plane.

In writing the above, I have no intention of decrying real sport, but of protesting against some of the tendencies which appear to be corrupting the modern ideas of what is sport. I have been associated with sportsmen and sport all my life, and some of the noblest specimens of humanity whom I have been privileged to know, have been keen sportsmen or ardent naturalists and collectors. But it was a bad day for sport when the idle, self-indulgent, and vulgar, invaded what used to be the recreation of the manly and energetic.

The Redshank swims well and voluntarily, and feeds upon marine insects, crustacea, annelids, and small mollusca, living on the shore for three parts of the year—or all of it, as only a portion go inland with us to breed. To this diet may be partly attributed its coarse flavour. But even young birds, shot where Redshanks do not breed, and therefore, presumably, fresh from inland breeding grounds, I have found almost uneatable.

Family—SCOLOPACIDÆ.

SPOTTED, OR DUSKY REDSHANK.

Totanus fuscus, LINN.

THIS bird is rather unfortunate in its English names, for the Common Redshank is almost as much "spotted," and the "dusky" summer plumage is seldom to be seen in Britain; however, the latter name seems most appropriate. The Dusky Redshank has never been absolutely ascertained to breed south of the Arctic Circle, but, beyond that, breeds from Scandinavia to Eastern Siberia, being, however, local in its distribution. In spring and autumn it passes along the West European and East Asiatic coast-line—migrating, also, partly across country—wintering in Southern Europe, Northern Africa, down to the Equator, India (rarely in Ceylon), Burmah, and China. It has not occurred in the New World, nor in the Færoes, or Iceland. With us it is chiefly found in small numbers on the east coast, in spring (April to June), from the Humber to the South Foreland, and from August to November in autumn. It is most numerous in August and September, perhaps, but is at all times a scarce bird. Elsewhere, with us, it is only a rare straggler, and in Ireland only three or four in all have been obtained.

Description of adult in summer (♂ Karesuando, 24, 5, '81): bill brown, dull reddish-orange at base, and more than $2\frac{1}{4}$ inches in length; iris umber-brown; head, neck, and underparts generally, dark sooty-black, with a slaty tinge, flecked on the neck minutely with white dashes, which on the breast become narrow indistinct white bars, increasing in size to the flanks and under tail-coverts; back black, with white and dusky white tips to the feathers, most conspicuous on the wing-coverts, and forming a saw-tooth pattern on the long tertiaries; lower back white; rump and tail white, narrowly barred with sooty black; primaries sooty, with white shafts to *all*, and a good deal of white freckling on the inner ones and the secondaries; axillaries pure white; legs and feet deep purple red. Length 12 to 13 inches, closed wing $6\frac{1}{2}$ to $6\frac{3}{4}$. Female often, not always, a little the largest.

Adult in winter (Norfolk, ♀, 9, 12, '85) much like the corresponding dress of the last species, from which it differs in the length of the bill ($2\frac{1}{2}$ as compared with $1\frac{1}{4}$ inches), the conspicuous white eyebrow and throat, the whiter under parts

SPOTTED REDSHANK ♂ 2/3 SUMMER ♂ JUR. AUTUMN

and more white spotting on the wing, and the longer tarsus ($2\frac{3}{8}$ inches as compared with $1\frac{1}{2}$ inches). Feet and legs dull orange red.

Young in autumn (♂ Barton, Lincolnshire, September, 1880; ♂ Foochow, 25, 10, 84): bill $2\frac{1}{16}$ inches. As compared with Common Redshanks in the same stage, the back is much more sooty and more spotted with white, as are also the wings; the whole of the underparts, except the chin, are spotted and barred with dusky.

The nestling can be distinguished from the Common Redshank's by its duskier colour generally, the black crown larger in area, and the legs and bill already proportionately longer.

Obs.—The longer bill and tarsus will separate this species from the foregoing at all ages, and confirmatory tests are the small amount of white on the secondaries, which, *in this bird, is freckled with dusky at all ages*, and which ought to decide the species on the wing within gunshot; also the white shafts to *all* the primaries, not the first only.

John Wolley's account of this bird's nesting in Finland, in 1854, as it was the first, so is it still the best. The nest is a hollow in the ground on a clearing in a pine-forest, often at a considerable distance from the nearest marsh or water, and usually on a dry hill or mound. The bird seems often to choose deliberately a clearing made by forest fires, the blackened ground matching exactly its own dusky back. The nest hollow is sometimes amongst dwarf heather, sometimes perfectly in the open, on ground covered with lichen, and the nest has sometimes a few dead leaves as a lining. The sitting bird remains on the eggs almost until it is touched, but I have been unable to find any information as to whether both sexes incubate. The birds are otherwise so wary that Wolley found it impossible to watch either of them to the nest, which can only be stumbled upon, therefore, by chance. The eggs are laid at the end of May; their colour varies from stone buff to pale green, with blotches and spots of pale neutral tint and dark umber; they measure about $1\frac{7}{8}$ inches by $1\frac{1}{4}$, and are therefore larger than those of the Common Redshank, as they are also more brightly coloured.

Little remains to be added, except that the Dusky Redshank is much more a fresh-water bird, and frequenter of lakes, marshes, and rivers, than a shore bird, and is only found near the latter at times of migration. It shews a particular preference for soft muddy shores of lakes and large rivers, rather than for such as are shingly or sandy, and often feeds in water some inches deep. It can swim well, and often does so voluntarily; when swimming, its body floats almost as buoyantly and as much above the surface of the water as a duck's. It is mostly met with on our shores singly and alone, (for this species seldom consorts

with other Waders as the Common Redshank habitually does), or in small parties of three to a dozen, or so, in number. It is particularly wary and difficult of approach. Though silent when it has eggs, it is very noisy when the young are hatched. I have seen very little of it personally—nothing whatever in its breeding quarters—but am able to say that its ordinary call-note, though equally loud and clear, is very different from the Common Redshank's, it consists of a loud double whistle, approximately rendered by the syllables "*chooee*"; besides this a small flock converse together in under-tones, uttering a sort of low chuckle; its food is of worms, insects, and small mollusca; on our shores it seems to be very fond of mussel spat.

Family—SCOLOPACIDÆ.

GREENSHANK.

Totanus canescens, GMEL.

THE Greenshank breeds from the Highlands of Scotland, and the fells of Northern Norway, across Arctic Asia north of lat. 60°. It passes down the West European and East Asiatic coasts on migration, and also across country, wintering on the shores of the Mediterranean, throughout Africa, India, Ceylon, Burmah, Indo-Malaya, and Australasia. It has not been found in Greenland, Iceland, or the Færoes, and has only occurred in the New World as a rare straggler. With us it breeds, in small numbers, in the Hebrides and the northern counties of Scotland, occurs as a migrant on the coasts in April and May, and also from August to November, rarely remaining to winter.

It is to be feared that the numbers of this species which breed in Britain are decreasing, owing to the fictitious value attributed to "British-taken" examples of the eggs of this, and other scarce birds. It seems a great pity that collectors

GREENSHANK ♀♂

whose cabinets serve no national—and often no absolutely scientific—purpose, cannot content themselves with specimens from localities abroad, where they would hardly be missed, of such eggs and birds as our grand-children may possibly not know as British breeding species at all. The pestilent "British-taken" heresy cannot be too often denounced: it is a heresy because Britain is in no sense a zoö-geographical region, or even sub-region.

Description of adult in summer (♂, Yorkshire, May): bill slightly turned upwards, nearly black, lighter at base; iris umber; crown, neck, and sides of face (except a whitish eyebrow) pale grey, with dark shaft-stripes and whitish edges to the feathers; back and shoulders of the same grey, coarsely and largely blotched with black (in some fine examples almost entirely black); wings darker grey-brown, with white shafts to the primaries, and narrow white edges to the shorter primaries and secondaries; lower back, rump, and upper tail-coverts white; tail white, barred with black, except the central pair, which are grey in ground-colour; throat white; lower neck and chest grey-white, spotted boldly with blackish-grey; sides of breast and flanks barred coarsely with V-shaped marks of the same colour; rest of under parts white; iris umber; legs and feet yellowish-grey. Length 13½ inches, closed wing 7¼.

The adult in winter (Foochow, 21, 11, '86) has broader white margins to the feathers of the upper parts; the back has lost nearly all its black, but the scapulars and tertiaries have light grey margins, interrupted by spots and incipient bars of dark sooty-brown; rump white, but upper tail-coverts barred with dark grey; under parts white, with a few blackish spots on the lower neck and breast.

The young in autumn (Northumberland, 1878, etc.) have a rusty tinge to the margins of the feathers of the back, and the chest is clouded with dusky; the central tail feathers are white, not grey, in ground colour; legs greenish-grey, bluer at the joints. Length little over 12 inches, closed wing 7.

The nestling (Lapland, June 21,) is light grey above, mottled with black, and shewing a brown tinge on the shoulders and lower back; a bold black stripe from bill to eye, and a deal of black, almost forming a cap, on the crown; under parts dingy white.

In the Highlands, the Greenshank nearly always nests near the edge of a loch, but in Scandinavia often on bare (*i.e.*, treeless) hillsides, in an open forest at some distance from water. A good account of it in the North is given by Wheelwright (Orn. of Lapland, 351-2). The nest is a hollow, usually on bare open ground, and entirely without cover, and is lined with a few leaves or blades of grass. Not uncommonly, however, it seems to select a spot for its nest beside a small boulder, or even between two good-sized stones. The eggs, four in

number, strongly pyriform, and placed (as is usual amongst the Limicolæ) with points inward, are pale drab, or greenish-drab, in ground-colour, spotted and blotched with neutral tint and dark sepia brown, especially at the larger end. They measure $1\frac{3}{4}$ to $2_{\frac{1}{16}}$ inches in length, by a little over $1\frac{1}{4}$ in breadth. The sitting bird lies very close, and can almost be touched before rising; after hatching, the parents lead the young to some bare grassy swamp, and are very vociferous if man approaches, especially if accompanied by a dog, which, no doubt, they take for that quadruped so universally detested in the north, the Arctic fox.

The Greenshank is, as a rule, one of the wariest of birds, frequenting marshes and stretches of brackish water near the sea, but leaving them for the tidal mud flats when the state of the ebb permits. It can be recognized a long way off by its erect carriage, by the general "mealiness" of the upper parts, and by the "tip tilted" bill. It is a very difficult bird to get within shot of, as it is remarkably watchful, and shews an instinctive avoidance of the neighbourhood of anything that can afford the least cover to a man. I do not think that I have ever stalked one successfully, though I have not found it very difficult to call and shoot them overhead; very careful concealment, however, is necessary to accomplish this, and it is necessary to keep absolutely motionless till the bird is within shot—so many people spoil the effect of previous carefulness by beginning to wag their heads about in the excitement of anticipation, and to flash heliographic signals with their gun barrels, the moment they see anything approaching.

The call of the Greenshank is in tone like that of the Redshank, but consists of a loud clear monosyllabic whistle, thrice or four times repeated; when surprised (which does not often happen) it yelps out like a Green Sandpiper, and every bird within ear-shot pays instant attention to its alarm. It is said to be a bird of palatable flesh, but I have no experience of it from this point of view. Usually met with singly, or in pairs, seldom are more than half a dozen seen together; in this latter case they will probably be young birds of the year in August. The Greenshank flies very rapidly, and sometimes twists like a Snipe. When feeding, the Greenshank never seems to be still for a moment, but displays an incessant restless activity; like the last species it can swim well on occasion, and may often be seen feeding in water deep enough to reach almost to the tibio-tarsal joint; in all its ways it shews itself a bright keen-witted vivacious creature. Its food is various: annelids, crustacea, beetles, flies, are its staple provender, but fish-fry, tadpoles, and even frogs, are mentioned, and one I shot had been making an abundant meal on crane-flies (daddy-long-legs). In the breeding season, in the far North, it is universally reported to be addicted to perching in

♀ Autumn — Bar-Tailed Godwit ♂ ½ — Summer

trees; most birds up there seem to learn this practice, for reasons which will appear to all who have read Seebohm's "Siberia in Europe;" the wide valleys being flooded during the melting of the ice and snow, when spring bursts on the country, birds are almost compelled to take to the trees to find standing-ground.

Family—SCOLOPACIDÆ.

BAR-TAILED GODWIT.

Limosa lapponica, LINN.

OF this, by far the most abundant in numbers of the two Godwits in Britain, the eggs are but little known; the next species, though formerly a breeding species with us, must be held a comparative rarity now. The name "Godwit" is probably old English for "good sense," *i.e.*, cuteness, wariness, but I have not found the Godwits by any means as wary as the Greenshank, or Curlew.

The Bar-tailed Godwit breeds above the Arctic Circle on the bare tundras, from Lapland, across Asia, to Alaska. The Bar-tailed Godwits, however, found east of the Taimyr Peninsula, are placed in a separate subspecies *(L. uropygyialis* or *novæ-zealandiæ)*, from having the rump and lower back much more obviously spotted with grey-brown in autumn and winter dress. In the western individuals the grey-brown centres to the feathers are but little visible at these times of year, unless the feathers are displaced.

In autumn, winter, and spring, this bird is a migrant to our coasts, especially on the east side, somewhat local in its distribution, yet sometimes in immense numbers; much more abundant some seasons than others. But in red summer dress it is very rarely found except on our south and south-east shores. This our western form passes on migration through Europe generally, to winter from Sindh and the Mediterranean basin to Great Britain and possibly the Canaries, not going south of the Equator.

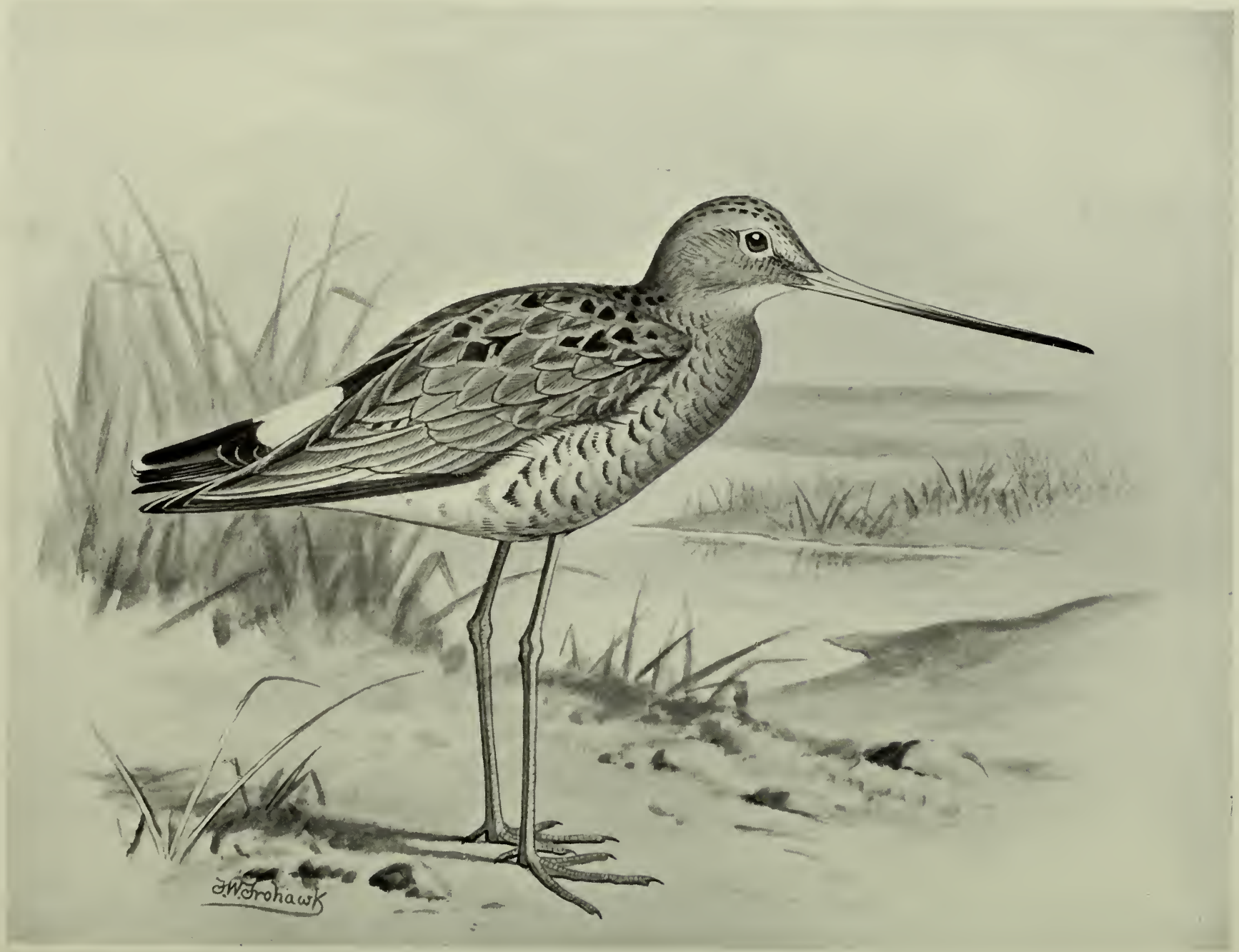
The adult male in summer dress has a bill about three inches long, dark brown, but lighter at the base, and decidedly turned upwards towards the end; iris dark brown; head, neck, and underparts chestnut, this colour appearing also on the back, tertiaries, and upper tail-coverts in the form of marginal streaks and saw-tooth marks to the feathers; the crown and sides of face have dark shaft-streaks to the feathers, also the shoulders and back, where they cover the greater part of the feather; wing quills sooty-black on their outward webs, with rather lighter inner webs, and white shafts; lower back and rump white, with dark grey-brown centres to the feathers, clearly visible at this season, which pass into bars on the upper tail-coverts and tail; legs and feet nearly black. Lengh 15-6 inches, closed wing about 8. The female is usually larger, and longer in the bill, but puts on much less chestnut.

In the winter plumage the chestnut is entirely gone. Roughly speaking, the upper parts are ashy-grey, striped and barred with browner grey; the under parts white, tinged with ashy-brown on breast and throat, and with darker shaft-stripes to these; rump pure white, long tail-coverts barred with ashy-brown, *but tail no longer barred.* The tail-feathers are now ashy-grey, with a dash of browner grey down the shafts.

The young in autumn are somewhat like the adults in winter, but the back and breast are tinged with buff and much more spotted (and barred in the case of the former). The tail is well barred with grey-brown, and the rump white. They keep this plumage through their first winter, and more or less during the ensuing year, not assuming adult summer dress until the second spring. It is due to this, no doubt, that a peculiarity often noticed in this species arises, viz.: that there is a great difference in the length and upward curvature of the Bar-tailed Godwits' bills. Out of a dozen shot in autumn, there may be an inch difference between individuals in length of bill, some having bills three inches long, others barely two, and but little upturned.

The nestling I have never seen, but there is a full description in Dresser ("Birds of Europe," Vol. VI., 205 and plate). It is buffy-white, with black streaks and blotchings above, and a good deal of rusty on the wing and shoulders.

John Wolley obtained the eggs in Finland as long ago as May 29th, 1858. They were figured by Hewitson, but no full description of the nest was published and I am not aware that any Englishman has since been in a position to add anything to the meagre notes which accompany the above plate, and which merely state that the Bar-tailed Godwit "breeds in marshes, chiefly in the neighbourhood of mountains, and gets up so warily from its nest that it is difficult to find it." The colour of the eggs is olive-green, blotched and streaked with brown, and they



BLACK-TAILED GODWIT ♂ ½

closely resemble those of the next species, but are slightly smaller, measuring $2\frac{1}{8}$ by barely $1\frac{1}{2}$ inches.

Bar-tailed Godwits frequent muddy and sandy sea-shores; they are very sociable birds, mixing freely on the feeding grounds with any other species of Wader. When they first arrive, about the end of August, they are very tame and unsuspicious, and are easily got at. They certainly winter with us, but are very local and casual in their distribution at this season; in many parts of our coasts they are never seen then at all, or only a few immature birds. About the beginning of April, their northward migration commences, and adults in full summer dress are met with on the Norfolk coast (but seldom north of it) about mid-May.

Their food consists of small shell-fish and crustacea, worms of all kinds, and insects (when up country). They are a fairly easy bird to recognize, owing to their long legs and upturned bill, and to the fact that there are few birds of their size. They are also a silent bird; I have heard them conversing together in under-tones, but seldom uttering any definite call; they have, however, a loud double whistle, and no doubt, at the breeding grounds, a spring note also. But I regret to say that I have never been there.

Family—SCOLOPACIDÆ.

BLACK-TAILED GODWIT.

Limosa belgica, GMEL.

ONCE a breeding bird with us, nesting up to sixty years ago in East Anglia and Lincolnshire, the Black-tailed Godwit is now only a spring and autumn migrant in small numbers, most common still on the coasts of East Anglia and decidedly rare north of Lincolnshire, and unfrequent elsewhere in Britain. Formerly the Black-tailed Godwit was netted in the fens by those who made

their living by the capture of Ruffs, Peewits, and these birds; they were afterwards fattened on bread and milk and sold, mostly in London, as a table delicacy. Latterly, *i.e.*, in Pennant's time, they were sold for as much as five shillings apiece, and were considered the "daintest dish in England" as Sir Thomas Browne wrote, two centuries ago. The fens of Cambridgeshire, Lincoln and Norfolk were their headquarters—now, of course, the fens themselves are almost as much a thing of the past as breeding Godwits.

There is a small colony in South-East Iceland, where the bird is called by a name which English writers usually write "Jadrakan" or even "Jardroeka." It is not "Jad" anything; this letter written "d" is an old "th," and if the name is to be Anglicised at all, it might as well convey something like the proper sound: "Jathreka" is the Icelandic name, which sounds in phonetic English "Yathraka," and means "earth-raker." Elsewhere in Europe it breeds in Belgium, Holland, Denmark, North Germany, Scandinavia and Russia up to 65° N., being as abundant in Finland as anywhere. In Asia its breeding range, like that of other birds, drops to lat. 60°, and it is found from the Caspian to Eastern Siberia, wintering in the Mediterranean basin and as far south as Abyssinia, India, and Australasia, passing through the intermediate countries on migration. The Eastern Asiatic Black-tailed Godwits have long been known as *L. melanuroïdes*, but they are all treated, and wisely, as one species in the B. M. Catalogue. Our bird does not occur in America, though it has been reported from Greenland, on what looks like insufficient evidence. The American form *(L. hudsonica)* has slaty-black axillaries and under wing-coverts.

The adult in summer (♂ Stallingboro', Lincs., 1879) has a considerably longer bill than the last species (4 to 4½ inches) about equally turned up towards the tip; head, neck, and breast (except a white chin) rufous, with dark brown shaft stripes on the crown, and irregular bars of the same colour on the breast, growing broader towards the tail; back and wings brown, the former irregularly mottled here and there with rufous and black; primaries and secondaries nearly black, with white shafts and white bases, which are visible in flight; lower back dark grey-brown; lower rump pure white; tail black, with concealed white bases to the feathers; axillaries, underwing and tail-coverts, and belly, white, the latter with a few dusky bars; legs and feet nearly black, with a greenish or bluish tinge. Length 16½ inches, closed wing 8½. The female is, as a rule, larger, but there is considerable variation in size in both sexes.

The adult in winter is plain ashy grey, lighter underneath, passing into white below the breast; wings as in summer, but with the white tips to the greater coverts more developed.

The young in autumn resemble in plumage the adult in winter, except that all the feathers of the head, neck, and back have dark brown-grey shaft-stripes; the lower back, like the rump, is white, and both are spotted with dark grey-brown; the upper tail-coverts barred with this colour; all the wing-coverts have conspicuous white margins. Length 15½ inches, closed wing 8.

The nestling (teste Meves) is rusty buff above, lighter below, and mottled with black, especially on crown and rump.

They nest in colonies, and make a shallow hollow in the top of a tussock in a marsh, lining it with fine grass, and depositing, about the end of April, four eggs; these are much like those of the last species, but paler usually, and rather larger, measuring 2¼ by full 1½ inches. Taczanowski states that both sexes incubate. The last published account of the nest is Chapman's in "Wild Norway" (Chapter xix), which is, as is usual with that writer, graphic, and gives a good idea of the behaviour of the birds near the nest. The food of the Black-tailed Godwit consists of worms, insects, larvæ, and, by the sea, annelids and crustacea. Like the Bar-tailed Godwit, it is not a noisy bird in general, uttering only a monosyllabic scream when disturbed; at the nest, however, it is otherwise, and when intruders shew themselves, these birds have a loud and incessant call, which Chapman renders as *tritte-tue*—others as *grutto, grutto*, which are hardly recognizable as the same note, and exemplify the unreliability of almost all attempts to render birds' notes in writing.

Family—SCOLOPACIDÆ.

CURLEW.

Mumenius arquata, LINN.

THE Curlew is a common ornament to our coasts, northern and southern, from September to March or April, mostly retiring inland to the moors at the latter date to breed. But odd individuals may be seen on the Norfolk coast, and elsewhere, all the season through; non-breeders, of course. In the south the Curlew breeds in Cornwall, Devon, Somerset, and Dorsetshire (probably also in Wilts and Hants, but there is a certain amount of confusion owing to the present bird and the Stone Curlew having the same name). Throughout Wales, and from Yorkshire and Derbyshire northwards, and in a good many parts of Ireland, it is a breeder in some numbers. It is a visitor to the Færoes, but only a casual, and not breeding, so far as I can ascertain; from Scandinavia to Japan and as far south as Brittany completes its breeding range, and it winters in the Mediterranean basin, on all the coasts and islands of Africa, India, and the Malay Archipelago, passing through Palestine, Persia, Turkestan, and the China coasts on migration. I have willingly followed Dr. Sharpe in uniting *Numenius lineatus* (Cuvier), the Oriental form (hardly amounting to a variety) with our bird. In America our Curlew has not occurred, being replaced by a species *(N. longirostris)* with the axillaries and under side of the wing rufous. The evidence of the Curlew's occurrence in Iceland seems to leave something to be desired.

The adult in summer (♂ Riding-Mill-on-Tyne, May, 1877, ♀ Do., June, '78) has the bill much decurved, dark brown, yellower at the base (length 5 to 7¼ inches, the latter only attained by Oriental females, but I have an English female with a bill 6⅛ inches); iris umber; upper parts, including the head (almost) neck and breast, hair brown, with bold dark brown shaft-stripes to the feathers, giving a distinctly striped effect to the whole plumage; on the breast, wing-coverts, and tertiaries, these dark stripes throw out lateral bars; primaries sooty-brown, with a white saw-tooth pattern on the inner web; chin, lower back, and belly white; upper tail-coverts and tail white, barred with black, the central feathers of the latter shaded with brown; legs and feet light blue-grey. Length 21 to 26 inches (female larger in body, as well as longer in bill), closed wing 11¾ to 12¼.

CURLEW ♀ 2/5

The adult in winter is much paler and whiter, but otherwise the two plumages are much alike. There is now a great deal of broad white border to the wing-coverts; the shaft-stripes of the upper parts, neck and breast are much narrowed, on the latter quite linear; the upper tail-coverts mostly white, only a few retaining narrow dark shaft-stripes. This plumage is very seldom to be seen on our coasts in perfection: the Curlews found with us in winter would appear to be mostly birds of the year in the duskier dress of immaturity.

The young in autumn are very dusky (♂ Bamborough, 5, 11, '77, etc.), the feathers of the upper parts margined with fulvous-brown instead of whitish; rump striped with brown; chest and neck tawny-brown in ground colour; primaries only freckled with white on their inner webs.

The nestling (Riding-Mill-on-Tyne, 1877) is brown-grey above, mottled with sooty-black; lighter grey underneath; bill quite short and Plover-like.

The nest of the Curlew is always on high ground in this country, and nearly always upon open moor; the sort of ground seems immaterial to them, wet or dry, heathery, rushy, or bare turf; they rely for safety, not on protective colouring, but on their keen eyesight and ceaseless vigilance. For a nest the Curlew scoops out a hollow in the ground, amongst heather or rushes, or in the top of a sedge-covered tussock, and deposits in it four eggs upon an untidy lining of grass or leaves. The eggs are strongly pyriform in shape, and very broad in proportion to their length (*i.e.*, $2\frac{1}{2}$-$2\frac{3}{4}$ inches by nearly 2), their colour dull olive-green, blotched and spotted with greenish-brown. I have never shot a bird off the nest—nor do I suppose that the chance to do so is often afforded to anyone—but no male that I recollect to have examined at that time of year shewed bare hatching spots on the breast, as females do; from which I am led to suppose that the females do the greater part, at least, of the incubating. Eggs are laid, in Northumberland, in April. Howard Saunders states that the Curlew does not breed in its first spring; the presence of evident non-breeders on various parts of the coast seems to be proof of this as to a certain number of individuals, otherwise the fact would be a very difficult one to prove, as there is little, if any, difference in plumage between individuals after the first winter; with species which do not assume the fully adult dress till the second year, as in the Godwits, it would be different.

When the Curlews have young ones, like most shy birds, they are very bold and vociferous, especially if the trespasser be accompanied by a dog; the young birds squatting, meanwhile, flat on the ground, and taking advantage, with a skill entirely disproportionate to their age and experience, of any herbage that is capable of acting as cover to them.

The name "Curlew" is of course an attempt to syllable the bird's well-known call; I have always thought the French edition—"Courlis"—much the nearest translation. It is a difficult bird to come to terms with; by the sea, at low tide, unapproachable, except by a fluke. The only way to bring it to bag with any degree of certainty is to observe its line of flight, and be there, well hidden, before the tide turns; a much more interesting method of pursuit, however, is to hunt it up at high water, when it is usually on the grass fields, etc., in the neighbourhood of the shore, searching for the land snails, of which it is very fond. At such times it may be approached under cover of ditches or hedges; it needs careful stalking, however. Moreover, when fresh from the moors, *i.e.*, at the end of August and during early September, the Curlew is an excellent bird for the table; later on, after a prolonged sea-shore diet, it gets much less delicate in flavour. In its breeding quarters it feeds on snails, slugs, beetles, worms, insects, and seems to be very fond of the fruit of the crowberry *(empetrum)*, a common moorland plant. I have found, I may remark here, that young ravens in the nest are very largely fed by their parents on the fruit of this plant, which (in Iceland, to which locality I am referring) have been preserved through the winter under the snow. I wonder if this has anything to do with the English name of the plant in question, the meaning of which is otherwise hardly obvious? On the shore the Curlew lives on mollusca (being very partial to young mussels), annelids, and the shell-snails it finds, as has been mentioned, on the adjacent land at high tide.

The Curlew is not a favourite bird with the wild-fowler; unceasingly watchful, and possessed of powers of scent almost equal to those of sight, the Curlew instantly alarms the whole neighbourhood, like a Raven in a deer-forest. But I have always thought that its interesting presence and melodious call added greatly to the enjoyment of a spring walk or fishing excursion in the northern moorlands near which my boyhood and youth were passed.

The Curlew makes a charming inhabitant of a walled garden, and is as useful as interesting; it is needless to say that watchful wing-cutting is necessary, unless the bird be pinioned. Like many wild and wary birds (and animals, *e.g.*, the Roe-deer) the Curlew gets surprisingly tame and friendly in captivity.

WHIMBREL ♀♂

Family—SCOLOPACIDÆ.

WHIMBREL.

Numenius phæopus, LINN.

A BIRD of immense range, breeding sparsely in the northern islands of Scotland, abundantly in Iceland and the Færoes, Lapland, and the fells of Norway and Sweden. In Northern Russia it is uncommon and local. Eastwards its place is taken by *N. variegatus*, which breeds in Eastern Siberia and Mantschuria, wintering in China, Indo-Malaya, and Australasia. I am of belief that the two ought to be considered identical. Though the western form has generally an unstriped white rump and the eastern a thickly striped one in summer, this is not always the case; I have a breeding male from Iceland whose lower back and rump are as thickly striped as any Chinese example. In the young and winter plumages the two are admittedly indistinguishable.

The birds which breed north of us pass our coasts in numbers in August, and are found in winter on the coasts and islands of Africa, India, Ceylon, and Burmah, where they meet the Eastern Asiatic Whimbrels. In America our bird does not occur, but is replaced by a form, or two forms, with rusty red axillaries. I should add, however, that our Whimbrel has occurred in Greenland.

The adult in summer (♂ ♂ ♀ ♀ North Iceland, June and July, 1885) has a decurved Curlew bill ($3\frac{1}{8}$ to $3\frac{1}{4}$ inches long) nearly black at the tip, passing into dirty yellow at the base; iris umber; upper parts dark brown, with paler margins to the feathers, on the hind neck, wing-coverts and tertiaries especially; crown sooty, with a central whitish line from bill to nape; primaries with whitish shafts and a white saw-tooth pattern on the inner web; secondaries similarly marked on both webs; lower back and rump white, with some longitudinal dark brown streaks, usually concealed under the feathers on the lower back, but plainly visible on the rump; tail and upper tail-coverts grey-brown, barred with darker brown; a white eye-brow from bill to nape, finely striated with brown; a dark line below it, passing through the eye; throat and cheeks white, the latter finely striated with brown; underparts white, the chest and sides of the body thickly spotted with brown, the spots pointed at the lower end; axillaries white, barred with dark brown; legs and feet plumbeous. Length 16-17 inches, closed wing $9\frac{5}{8}$. The female a little the largest, especially in the bill.

Adults in winter are paler below, and the heavy spots on the chest and neck have shrunk to mere linear stripes.

Young in autumn have always a dusky appearance, and some traces of buff on the underparts. In a very young male (N. Iceland, 1, 8, '94) with traces of down remaining on the head and neck, the back is distinctly spotted with two shades of cream-buff, and ruddy-buff; and traces of this are to be seen in young birds on our coasts in early autumn.

Young in down (Reykjadalr, July 16th, '85) are buffy-white above and below, with two strong dark lines along the crown, and irregular black markings and mottlings on the back. Bill short.

The nest of this species, of which I have seen a great number, is a hollow on a hummock or mound, usually a perfectly bare one; the nest can hardly be said to be lined, but contains a few scraps of grass. In this are laid four eggs, miniatures of those of the Curlew, but, as a rule, more boldly marked with brown; the beautiful pale olive ground colour fades a good deal, I am sorry to say, in the course of a year or two. The eggs vary in length from $2\frac{1}{4}$ to $2\frac{1}{2}$ inches by $1\frac{1}{2}$. On one occasion I found a nest with only three eggs, incubated (a very exceptional number) on a tussock in a marsh, and close beside the nest lay a small heap of rounded pebbles, as big as sweet peas, which had evidently been recently brought by the parents from a river side nearly a mile off, necessitating a good many journeys. Unless these were for the young birds, when born, to swallow with their food as an aid to digestion, I am at a loss to explain their presence. Nearly all the eggs of this species seem to hatch out, barring accidents; I mean, one seldom finds addled eggs in the nests, as is not uncommonly the case with the Curlew.

Both sexes incubate; I have the skin of a male, dissected by myself, which bears unmistakeable bare hatching spots. I never, however, have shot a bird from the nest, as they steal off the eggs when they see danger threatening, which, from the position of the nest, they can do a long way off. They are very courageous at the nest, though, except in the case of man, and I have seen two Whimbrels thrash a prowling Raven soundly; Richardson's Skuas, too, they have no difficulty in driving off. All the same, they lose a great many eggs from the attacks of these two robber birds, because, when their attention is directed to one individual, another rascal sneaks off with the spoils.

The note of the Whimbrel, which is not unlike the breeding note of the Curlew, consists of a high, clear, short whistle, repeated seven or eight times in a descending scale of semitones, or rather less. From this note it has got the name of "Titterel," or "Seven Whistler," on our coasts. It is also called the

"Jack" Curlew (as "Jack" Snipe) and, in Norfolk, "May bird," from its regular appearance on its northward journey about the beginning of that month. The note is an easy one for anyone with a fair musical ear to imitate, and I have called and shot a number, as they are fairly good birds for the table. The Whimbrel does not long absent itself from our shores; leaving in mid-May for the north to breed, some few are back again by the end of July, and in August get quite plentiful. But I doubt if they can be accurately said to be absent from our coasts at all, except in winter, as I have seen odd ones on the Norfolk coast during the last fortnight in June; they were evidently not on passage, and were there all the time that I was, some way into early July. I suspect that these late stayers are birds of the year (as I have also surmised in the case of other species) which do not feel impelled to breed, and therefore pass the summer some distance south of the true breeding-quarters of the species. They might, of course, be barren or injured individuals in some cases, but we have every reason to suppose that in a vast number of boreal-breeding species (not by any means of Waders alone) individuals are to be found—many immature, either in plumage, sexual organs, or both—some distance south of the breeding area during the breeding season. In 1895, we found King Eiders, none fully adult, in S. Novaya Zemlya, but satisfied ourselves that none were breeding there. After August Whimbrel decrease, as Curlews increase, in numbers. Whimbrel seldom go inland in our country, except on migration, and even that rarely; nor do they ever seem to settle by river sides for a few days, as many other Waders do on migration. On September 5th, 1888, I was surprised by the familiar whistle in mid-Cambridgeshire. There was only one bird, and when I answered it circled round, but was too bent on pushing on to take further notice.

They are less of marine feeders than the Curlew, though so seldom found away from the coast, living more on land snails, worms, etc. They often go to newly ploughed fields near the sea as well as grass fields. To a certain extent they live on marine crustacea, etc., but never so much as to give their flesh the rank fishy taste, which the Curlew's gets. Though fairly wary, they are not so preternaturally sharp sighted and vigilant as Curlews are; nor do they alarm the whole neighbourhood to the same extent.

Family—SCOLOPACIDÆ.

ESKIMO CURLEW.

Numenius borealis, J. A. FORSTER.

THIS small American Curlew—obviously related to the still smaller Eastern Asiatic *N. minutus*, which it resembles in size, shape, and colour—breeds throughout Arctic North America, and winters in South America, chiefly on the eastern side. Three examples have been shot in Scotland, one in Ireland, and three in England. It occurs in Greenland, though not abundantly, whence probably it makes its way to our shores.

It may be distinguished from other species which visit us by its small size; general warm rufescent colour; primaries with no whitish saw-tooth pattern on the inner web (but just a trace of freckling); and rump and lower back of exactly the same colour as the rest of the upper parts; but especially by the axillaries, which are of warm rufous, barred with dark brown. Length 13½ inches (of which bill 1¾), closed wing 8 to 8½. Bill over 2¼ inches.

The Asiatic *N. minutus* (which might visit us, though it is not as yet known to have done so) can be at once detected by its legs, which have transverse scales in front and behind the tarsus, whilst *N. borealis* has small hexagonal scales behind; moreover, the axillaries and under wing coverts of the latter species are buff, rather than warm rufous.

The present species bears a certain superficial resemblance, also, to *Bartramia longicauda*, which might be a difficulty to a beginner. The bill of the latter is much shorter, however (only 1¼ inch), and its white axillaries barred with black, will separate it instantly from the Eskimo Curlew.

END OF VOLUME FIVE.

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